

As the miners' strike moves to an uncertain end, Peter Aspin looks at recent academic attempts to define more clearly one of the key points of contention in the dispute: what constitutes an "UNECONOMIC PIT" (page 11)

In 1986 (all being well) PORTUGAL will join the EEC. At the same time, plans for new polytechnics there will come to fruition. Karen Gold reports from a recent Algarve conference of the Portuguese polytechnic planning committees (page 12)

Unfinished symphonies: Brian Newbould describes the potentials, problems and rewards of his work as "realizer" of SCHUBERT's uncompleted works (page 18)



The death of the death of knowledge: Alastair Fowler examines the current situation of ENGLISH STUDIES and concludes that all is not as black as may seem: "The picture is not a night-piece. The prospect is inviting..." (page 15)

Mapping the world of SCIENCE: John Ziman reviews four books directly concerned with the way the sciences organize themselves, both intellectually and socially (page 16)

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The vindicated OU

The Open University has won half a victory in its battle to secure fair and reasonable funding from the Department of Education and Science, but probably the easier half. It has gained the support of its own visiting committee but has yet to win that of Sir Keith Joseph, the Secretary of State for Education and Science. By his quarter-hearted response to last week's appeal by the visiting committee on behalf of the OU Sir Keith has shown that he has not yet shaken off his statist hostility towards the university. Whatever his motives - the shades of Jennie Lee and Harold Wilson, his distaste for higher education that is both liberal and populist, his recurring nightmare about Marxist bias - Sir Keith is clearly finding it very hard to love the OU.

But last week's report by the visiting committee on the OU's plans to cope with the precipitate grant reductions ordered by Sir Keith has shifted the argument between the DES and the OU in favour of the latter. After all, the members of the visiting committee are far from being OU groupies; they include hard-headed businessmen and at least a couple of rightward-leaning academics. Yet they have accepted the OU's case on two vital points. First, they agree that the OU's savings target of £13.2 million is a more realistic indication than the DES's estimate of cuts of £4.7 million of the effective reduction in the university's grant between 1983 and 1986. Second, they agree that such a substantial and rapid cut may well inflict "real damage" on the OU.

The effect of the visiting committee's authoritative endorsement of the OU's case on these two points is to knock away the most important prop of the DES's case against the university, that it was exaggerating both the scale and the likely consequences of the cuts. But this seems to have carried little weight with Sir Keith. A few concessions have been offered but they are at the margin. Given that the gap between the OU's and the DES's estimates of the effective cuts amounted to more than £8 million, the addition of £100,000 to the 1985 grant and of £500,000 to the 1986 hardly rises above a grudging token.

The three significant concessions made to the OU only go to demonstrate the disabilities the university has suffered as a directly funded black sheep. The OU is to receive a strictly earmarked £1.6 million for premature retirement and redundancy payments more than three years after the other universities were allocated a £100 million "restructuring" fund for similar purposes. It is to receive £1.2 million to replace obsolete computing equipment - again a sum that other universities would almost certainly have been allocated by the Computer Board. Third, the terms of the OU's £2.4 million loan under the PICKUP programme are to be eased - hardly a generous concession when so many other institutions have received PICKUP money as grants rather than loans.

Many people at the OU and more discreetly of course in the DES, see the

conflict between the two in black-and-white terms. The source of all the difficulty is regarded as the apparently irreversible hostility of Sir Keith. However hard his civil servants try to fight for the OU, however authoritative the advice from the visiting committee to ease off, the Secretary of State sticks to his prejudices about the university. The visiting committee may say in its latest report that the OU has been "a national and international success" and that the Government should be prepared to express its confidence in the university and its continuing role. Sir Keith shows no real sign of agreeing.

It is a long time since he, or any DES minister, had anything nice to say about the OU that carried any conviction. Overseas the OU may be admired as a great British achievement; its work may have changed for the better the lives of tens of thousands of our fellow citizens; it may have had an impact on the popular consciousness of higher education many times greater than that of the expansion of the conventional universities. But, in the eyes of present ministers at any rate, "a prophet is not without honour, save in his own country, and in his own house". If Sir Keith and his colleagues disagree with this judgement of their views, they have only to prove it.

The danger is that the OU will be enfeebled by administrative intervention and academic isolation

But that cannot be the last word. It would be neat to blame it all on Sir Keith - but not very honest. The present tension is structural as much as personal. Even if the Secretary of State was sympathetic rather than hostile, serious difficulties would remain. Life for the OU in the 1980s cannot be as comfortable or as simple as it was in the 1970s, for two simple reasons. First, public expenditure on all higher education has been reduced. The other universities have had to cope with substantial cuts since 1981 and are coming under increasing pressure to improve their cost-effectiveness. It was inevitable that Sir Keith would find that the OU would become entangled in a parallel process of constraint and rationalization.

Second, the OU is now moving into a second and more elaborate stage of its development. Its first stage, the provision of undergraduate courses to highly motivated adults who had been denied earlier opportunities for higher education, has been triumphantly achieved not in the sense that the need for such courses has become less urgent but in the sense that the time has come for the university to take new initiatives in fields like continuing

education. So the cuts have come just at the time when the OU inevitably and necessarily is embarking on complex new developments. The conjunction of the two was bound to strain the relationship between the university and the DES.

That relationship now seems to be breaking down. The existing machinery that links the OU as payer and the DES as payer, with the visiting committee acting in an ambiguous role as agent for the former and overseer for the latter (and impresario for the whole show?), is no longer adequate. It may have worked in the days when resources were plentiful, ministers benign, and the role of the OU uncomplicated. But it cannot cope with today's strains.

The machinery has a number of weaknesses. First, it provides no useful insulation between the political prejudices of ministers and the operation of the university. This is not simply an issue of academic freedom but of managerial efficiency. Second, none of the three parties, OU, DES or visiting committee, is able to operate in anything but a claustrophobic context. Any sense of comparability, that would allow level-headed assessments of the reasonableness of particular policies and their likely consequences, is lost in the accumulation of one-off decisions and special circumstances. The danger is that the OU will be treated in an inconsistent, and occasionally incoherent, manner.

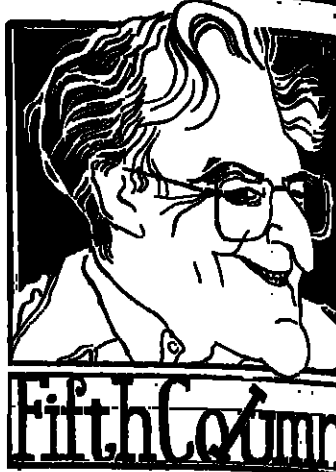
The most serious threat to the future of the OU comes not from the malice of Sir Keith Joseph but from the creeping incoherence of its funding machinery, which is bound eventually to be reflected in the operation of the university and even in its academic planning. The danger is that the OU will be enfeebled by administrative intervention and academic isolation. Already there are signs that the OU may be sucked into a kind of black hole between the University Grants Committee and its dependent universities and its dependent polytechnics and colleges, which have gone a long way towards establishing an effective duopoly in higher education planning.

Previous attempts to establish a direct funding relationship between the OU and the UGC have failed. But the case for the closest possible association between the two is now stronger than ever. The incorporation of the OU in the UGC sector on whatever terms seems sensible would benefit both parties. It would protect the independence of the OU, establish defensible standards of comparability that would encourage better informed and more even-handed treatment, and combat the creeping fear of marginality. It would give the UGC a more credible stake in the post-Robbins continuing education world in the growing competition with the NAB. Instead of being pressed to the unproductive margin the OU could fulfil a creative role as intermediary between the two sectors in building this post-Robbins future.

Infantile Scargillism

The miners may have gone back to work but that is unlikely to stem the increasing flow of infantile Scargillism among students. The first time as tragedy, the second as farce - maybe Mrs's harsh judgement on Napoleon III is appropriate here. The latest victim was Mr Neil Kinnoch who had tomatoes and other debris thrown at him during a visit to a London college on Monday for what else? - selling out the miners.

But the more usual victims are members of the present Conservative Cabinet. Sir Keith Joseph himself is a constant if rather bewildered target. Mr Thatcher has been the genuinest of a noisy demonstration during a visit to All Souls a few weeks ago, a foretaste perhaps of a more conspicuous although, of course, far more dignified Robert who was to receive in Oxford shortly after the election. He had a tough time of it, too.



Lord Esher is known by that name in several worlds, education, architecture, planning and conservation for example, but he has written his autobiography under the family name of Lionel Brett. It is a delightfully written book, sometimes irritating, full of perceptive phrases, and his story swings between the poles of ambition and diffidence which is himself identifies at the very beginning.

He underestimates his success. His study of the conservation of York, for example, marked a turning point for that city at the end of the 1960s he, as much as anyone, was responsible for changing the whole style of the city and setting it on its way to its present fame and prosperity. The title of the book is just a self-revealing - *Our Selves Unknown*.

This is not a review of the book which will no doubt be done elsewhere. I want only to pick out one episode because it is of great interest to anyone in the business of higher education. That is his experience as rector of the Royal College of Art in the early 1970s. It winds up the book and is not a happy story.

Why he felt impelled to take on the Royal College without hesitation is not clear to me. He arrived at exactly the wrong moment, for him as well as the college, and both were wounded in the battle. His account of the crisis is valuable if only because - as he points out - he has not seen such a story told elsewhere. Looking back on it from the 1980s, it looks he says, easy; it wasn't so at the time.

That must be true. I went through a similar, though probably less harrowing, crisis at the same time and I doubt if I did much better. I read such accounts always asking myself what I would have done - just in case - and it is never easy to answer.

How different things were only a few decades before. Robin Darvin took over the college in 1948 on condition that the whole of the teaching staff place their resignations in his hands. That will never happen again anywhere, whatever Sir Keith Joseph may hope. It affects everything. I remember nothing at the time that no student crisis happens without academic staff being involved behind the scenes somewhere.

It is also clear from Esher's account that sensible and sensitive talking to a group of students has no effect. That was not after all what they were looking for. I made the same mistake and suffered the same fate. It is not much consolation that they would all end up as a happier than oneself.

I decided that it was all too painful to witness and, having made sure that everyone was safe, went home and wrote the better part of a book. Esher points out at the end that if "was bound to leave a nasty taste", I think that happens to many of us. We never again have quite the same trust in the goodwill of the student body and took care not to turn our backs on them, however nice individuals might be.

It is a very good account, its intentions are impeccable, its judgement sound, its implications depressing.

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Taking a break from the pressure of work, Sir Peter Swinerton, Secretary of the University Grants Committee, and Professor Sir John Butterfield, vice-chancellor of Cambridge University, get away from it all with a game of real tennis. The two men, enthusiastic players of the medieval precursor of the modern game, are regular opponents in Cambridge but just for fun. Commented Sir Peter: "It is officially denied that Cambridge University's UGC grant is at stake."



Unknown quantity for SERC

by Jon Turney
Science Correspondent
The Science and Engineering Research Council will start shaping its future strategy next week without knowing the verdict of the Kendrew committee's inquiry into future British participation in high-energy physics research.

The recommendations of the group chaired by Sir John Kendrew are a key element in the SERC's long-term strategy as the subscription to the European Centre for Nuclear Research (CERN) in Geneva accounts for 10 per cent of the council's budget. But the group's report is not now expected before May. Sir John Kendrew met the SERC chairman Sir John Kingman on Tuesday, and told him the group had not yet decided what to propose.

The SERC's council meeting next Wednesday will consider its plans for 1986-1990, and may well set the council on a path which pre-empt the Kendrew group's findings. Each of the four SERC boards presented plans to the last council meeting based on a 10 per cent budget cut, level funding, and bids for extra money. Professor Kingman will present proposals next week based on members' response to these plans, which are intended to take money from some boards to increase flexibility elsewhere. In practice, no one expects the engineering or the science board to win less money, which will mean cuts for the nuclear, physics or astronomy, space and radio boards.

The problem is made worse by continuing pressure on sterling-exchange rates, now projected to cost the SERC more than £20m extra for international subscriptions in the coming year. Nuclear physics board members argue that if they were held to their lower guideline it would put the board in an impossible position. With the CERN subscription fixed, they would have to cut nuclear structure physics and domestic support for particle physics experiments drastically to balance the books. Movement towards the lower guideline for the astronomy, space and radio board is likely to mean withdrawal from the Anglo-Australian telescope and the UK Schmidt telescope in New South Wales, and would threaten the two British support establishments - the Royal Greenwich and Edinburgh observatories.

Lecturers may get 5% offer

by David Jobbins

Some local authorities are ready to offer college lecturers an interim 5 per cent pay rise with the prospect of more later if talks on salary structure make progress by September.

But the management panel of the Burnham further education committee was in dismay this week after seven hours of talks with the lecturers' unions failed to produce an agreement.

The employers, led by the Labour chairman of Wakefield education committee, Mr John Pearman, are now trying to find a formula which they can put to the lecturers when they meet them again next Thursday. The Association of County Councils is likely to need considerable convincing before it will agree to a formal offer which goes beyond a 4 per cent interim offer to and rejected by schoolteachers.

And the main union, the National Association of Teachers in Further and Higher Education, decided to pull out of two days of talk on structural changes planned for later this month. But it may return when the negotiating climate improves.

In the event no offer was made in the brief bargaining session that followed the informal talks after union leaders made clear that 4 per cent went nowhere near their demand for 20.5 per cent as a step towards restoration of Houghton's salary levels.

Natfhe is balloting its 75,000 members on industrial action including an overtime ban and no cover of absent colleagues. First results were expected last week and action will begin as soon as union leaders are satisfied that individual branches have met rule book requirements.

Treasury takes hard line on student loans review

by John O'Leary

A wide range of options for the introduction of loans will be included in the Government's review of student support. But the Treasury is taking a hard line on the cost of a loans scheme in its early years and may block radical changes to the present system.

Sir Keith Joseph, Secretary of State for Education and Science, who ordered the review last December after being forced to revise proposals to increase parental contributions, has decided against favouring a particular scheme. He is understood to be anxious to be seen to hold genuinely open consultations about possible reforms.

As a result, some half dozen schemes will be put forward in the review. The precise number of options has still to be determined as officials are still working on the package, but they are likely to include the proposal put forward in the Leverhulme inquiry into higher education for a mixed system of two years' grant with subsequent years financed by loans.

Other options will range from adjustments to the existing grant system to a complete switch to student loans. Each option will be spelled out in detail and costed in the consultative paper.

The exercise will be conducted separately from the Green Paper on higher education, although the two papers could be published simultaneously. The Green Paper itself is being rewritten in a shortened version, which may delay its appearance by up to three months.

Treasury doubts about loans centre on the cost of so-called "easements" which are thought to be necessary to

make any scheme politically acceptable. These would include the setting of interest charges below the market rate, the waiving of interest for the duration of a student's time in higher education, provision to at least delay repayments under an agreed salary threshold and measures to avoid the "negative equity" effect of loans for married couples who marry after their student days.

All such concessions would be costly and would have to be financed by the Government even if the banks could be persuaded to administer loans. They would add significantly to the cost of any scheme and might make loans more expensive than grants initially.

The Department of Education and Science is already involved in disagreements with the Treasury over the technicalities of spending on loans. The Treasury is yet to rule on the treatment of initial advances in the Government's overall spending plans and could delay publication further as a result.

Consultation will take place over the summer but will not be allowed to drag on because of the urgency felt by ministers on the subject. The issue will be debated by a Cabinet committee in which any loans scheme is likely to face a rough ride. Mr Nigel Lawson, Chancellor of the Exchequer, is understood to be personally sceptical about loans despite the sharply rising cost of student support in the last two decades.

Although the value of the grant has fallen in recent years, rising student numbers have increased considerably the cost to the Exchequer. But the experience of other countries has convinced many officials and ministers that loans would produce few savings.

Tax incentive call to Lawson

by David Jobbins

The Chancellor of the Exchequer, Mr Nigel Lawson, is being pressed to include tax concessions in next week's Budget to encourage firms to donate equipment to higher education.

Mr David Madel, chairman of the Conservative-backed education committee, raised the matter with Mr Lawson when the Chancellor held his annual pre-Budget meeting with Tory MPs. He had already pressed the case for tax incentives with Sir Keith Joseph, Secretary of State for Education and Science.

His campaign has the support of other Conservative MPs, including Sir William Van Straubenzee, chairman of the Commons Select Committee on Education. But it is thought unlikely to beat the Treasury this year.

Mr Madel is backing claims in a report by the computer firm Hewlett-Packard that tax incentives of the order available in the United States, would encourage industry to increase its sponsorship of higher education. Hewlett-Packard is the second largest donor of equipment to

Writs issued over cancer

by Carmel McQuaid

Two technicians and two electricians working in or near the chemistry department at Queen's University, Belfast contracted testicular cancer, a relatively rare form of the disease, over 18 months in 1983 and 1984. One of the electricians subsequently died.

Writs have been issued against the university by the Association of Scientific, Technical and Managerial Staffs and further court action is pending from the electricians' union. It has also emerged that five students have been afflicted over a longer period, some, though not all, of whom had also frequented the David Keir building which houses the chemistry department. The university, however, refused to give information about the students, and argued initially that the other cases had just been statistical coincidences. ASTMS found, however, that based on the figures for the disease elsewhere, Northern Ireland, with a population of one and a half million should expect 17 cases in any one year. Nine in one place seemed distinctly peculiar.

Queen's also points out that because the disease prevails in the 25 to 35 age group, a higher instance among their staff is to be expected. ASTMS countered this by conducting a survey among members in UK universities, which gave no indication of corresponding incidence of the disease.

But in January, when Clive Jenkins, ASTMS general secretary, arrived to investigate the case, the Queen's health and safety officials admitted concern and revealed that an eminent cancer specialist had been commissioned to carry out investigations to find links between the David Keir Building, where carcinogenic chemicals and hormones are handled, and the disease.

Mr Roger Jeary, the ASTMS representative said: "The whole issue is hedged in with ifs and buts. But we are anxious to allay fears on the part of students."

A spokesman for the university, Mr Ivan Strahan, said the investigations had so far shown there were no links between the various cases. "In two of the cases the men were found to have the inherited physical characteristics which commonly lead to the disease," he said.



Man of the border country, page 13

Letters to the editor

Academics and the outside world

Sir, — Alan Wilson's article (*THE*, March 8) belies the words in the title "humble role"; it may have the opposite effect to that which he intends, namely to persuade the outside world of the value of academia.

How will an unconvinced non-academic judge his five invaluable areas of academic activity?

1. He will surely suggest that the body of knowledge created by academics is little used by others, that it serves mainly to get degrees and promotion, since publication still counts high, even more than teaching excellence.

2. Wilson argues that the academic communicates knowledge and skills to students. He is not alone, others do it too, but it is interesting that "attitudes" were omitted, the very

quality that needs personal contact the most. Furthermore many of the skills are less than real, they respond to forms and questions that are easy to mark. In engineering for example, there are many both in and out of academia who argue that students are taught to solve equations and are not put in front of problem solving or given open-ended questions with all the deficiencies in facts that problems from the real world present. Many argue for more synthesis alongside analysis and for design-orientated teaching.

3. Many school teachers grumble that the universities far from being the guardians of standards actually retard creative teaching through the sterility of their demands in A level examinations.

4. Wilson argues that academics could provide a body of generalists, intelligent and logical enough to be useful to contribute to the work of any outside body. This differs little from the concept that he deprecates that arts-trained generalists form the best senior civil servants and ministers, regardless of how technical their responsibility might be.

5. Academics as cultural interpreters? Surely there are as many specialists with tunnel vision in academia as there are outside? Especially in Britain and America.

This is all far too smug. It is to be doubted how many people will be persuaded by Wilson that they should leave the academics to use their own internal criteria for their work without outside criticism and that they should

be free to play with their toys at the expense of society without challenge. Exposure to other abilities, attitudes and criteria is vital. Academia does need change and it can be done without prostituting intellectual standards even if more of its work can be used by society sooner or later.

But I not only agree with Wilson that there should be more interchange between academics and industry, but also between all parts of society — between government, civil service, the city, industry and business and academia.

Yours faithfully,
A. KENNAWAY,
Department of Mechanical Engineering,
Imperial College of Science and Technology.

British arrogance

Sir, — Professor Fowler's assertion that "Structuralism was France's belated discovery of New Criticism" (*THE*, March 8) is a typically Anglo-Saxon establishment view of the real situation. Anyone acquainted with French literature would be able to perceive a dynamic which should be naturalized in Professor Fowler's terms. To describe "Derrida's deconstruction" as "an anti-philosophy of meaning" is a crudity which deserves the sort of putdown given to pretentious undergraduates.

It is precisely this kind of complacency which is at the heart of Britain's decline. While some of us find French theory the most exciting thing since Wittgenstein, too many academics are leaning back in their chairs with expressions of benign indifference. Why is it so hard to believe that anything is really happening across the Channel? British arrogance is a subject of amusement and regret on the Continent, as standards of living rise there and fall here. Is it not possible that those wretched foreigners know something we don't? When are we going to unload our empiricist prejudices and admit the possibility of new kinds of knowledge?

Professor Fowler's prejudices as exposed in his article are too numerous to list here, but I will mention a few. "Fry's archetypal criticism" is characterized by dogmatic stances. Why is not Leavis "dogmatic" and Fry "convicted"? Is it to do with the fact that Leavis was at Cambridge and Fry was in the wilderness of north America? I hope *THE* will shortly give us a more detached view of the state of English studies. If they are in "a difficult time" perhaps it is more to do with myopia than false

rumour.

Yours faithfully,
PAUL SHAW,
Research student,
University College, Swansea.

Plagiarism inquiry 'a sham'

A research assistant at UMIST who has made allegations of plagiarism said this week that the institute had ignored *prima facie* evidence of gross academic malpractice for seven months.

Mr Tony Coyle, who has made a series of allegations concerning research work and theses at the University of Manchester's Institute of Science and Technology's department of management sciences said he had provided detailed documentary evidence in September 1984.

After the allegations appeared in *THE*, UMIST set up a dean's inquiry to look at the "academic aspects" of the case and invited Mr Coyle to pursue his allegations through a grievance committee.

This week Mr Coyle said the inquiry was a "sham" — a systematic inability to address questions, and examine evidence, of impropriety in examination procedures and practices would appear to debauch the entire currency of graduate and postgraduate qualifications in the institute. UMIST by its very incompetence and dilatoriness has become an unwitting progenitor of a plagiarist's charter.

He said that to suggest that allegations of gross and repeated negligence in postgraduate supervision and examination could be addressed and remedied through personal grievance machinery could "only invite universal ridicule and contempt".

Mr Coyle made his remarks after UMIST issued a statement by Mr Tony Russell, chairman of the council, rejecting an earlier charge that the grievance procedure was not the adequate and competent body to examine the allegations.

"The grievance committee is the only body in a position to ensure, through its very fair and even-handed procedures, that the matters of which you complain will be fully considered and that those against whom you make allegations are given the proper opportunity to be heard," Mr Coyle was told.

The committee will be chaired by Mr H.K. Goddard, a QC and lay member of the UMIST council. There will be four other members of the council, two lay and two elected, plus "a distinguished academic" from outside UMIST who is not yet named. The dean's inquiry will continue separately.

represented on the group drawing up the plan, which has been ratified by the university's joint policy committee. The five members were the university registrar and bursar, and Strathclyde's vice principal and two deputy principals who hold respectively the chairs of chemistry, marketing and electrical engineering.

The document proposes student cuts of 232 in the business school, 215 in arts and social studies, and 150 in science, with an increase of 100 students in engineering.

It envisages a loss of 45 academic staff in arts and social studies, with 12 posts being lost in science, 10 in engineering and 10 in the business school. Another 50 technical and 30 clerical posts would also be cut.

Art and social studies would remain viable in 1989 with about 55 full-time academic staff if these were redistributed over five or six departments only, the paper warns. In an obvious euphemism for rationalization, it reminds the faculty of University Grants

Committee advice for "increased collaboration" with Glasgow University.

The Association of University Teachers has called for independent accountants to examine Strathclyde's finances. Mr David Bleiman, the AUT's regional official, said: "We recognize that like any university Strathclyde has to cope with pressures created by Government cash limits, but we don't think the situation is as serious as the university thinks."

Mr Alan Smart, Scottish president of the National Union of Students, has warned that the union will consider legal action if Strathclyde accepts proposals to axe courses for which students have already been accepted.

He added that the report was lying in the face of Strathclyde's statement that more women should be offered opportunities. He pointed out that 65 per cent of arts students were women, as were 48 per cent of business students, and 40 per cent of science students, compared to 35 per cent of Strathclyde's total student population.

CNAAs seek to amend charter and statutes

by Karen Gold

The Council for National Academic Awards is to seek permission from the Government to change its charter and statutes so it can allow institutions to approve and award their own degrees.

At its spring meeting this week the council agreed unanimously that its chairman's study group should have talks with Department of Education and Science officials, and if necessary with ministers, to ask for the Government's views on charter changes. All amendments to royal charters have to be approved by the Privy Council and therefore need Government support.

The changes the council considered would allow institutions to receive delegated powers to approve degrees through their internal validation processes and to award their degrees, meaning that the institution's name rather than the council's would be on the degree certificates.

Such powers would be an extension of the council's proposed "Mode B" scheme of devolved validation, under which institutions would carry out their own validation monitored by the CNAAs. Reactions to Mode B, which was proposed at the end of last year and designed to avoid the need for charter and statutes changes, were distinctly unenthusiastic.

The CNAAs' chief officer, Dr Edwin Kerr, said that both institutions and the council's own subject boards had said if charter changes were

needed for more flexible validation they should be sought.

The delegation of approval and awarding of degrees would be only to some institutions, and would be dependent on those institutions inviting members of the council to their internal reviews and having their evolved powers reviewed every five or seven years, he said.

"Rather than the council being responsible for the organization of reviews... institutions would become the organizers of the review and would involve their partners the council members in the internal procedures at their invitation," he said. "They would keep the council informed so the council would have national competence."

The Lindop committee of inquiry's report into public sector validation, which is shortly to go to ministers, is expected to recommend legal changes to allow mature institutions to approve and award their own degrees.

Dr Kerr said that the proposals had been planned for the council before any of Lindop's recommendations were known, though the committee's inquiry had obviously accelerated the CNAAs' timetable for devising its powers.

"The tone of the whole council discussion was that this was the right time to make such a decision, that the basis for it had been laid, and that we should be very forward-looking and very positive towards such a change," he said.

NAB settles on selective research aid

by John O'Leary

Research funding for polytechnics and colleges will after all follow the highly-selective pattern advocated by the board of the National Advisory Body, after an about-turn by local authority leaders on the NAB committee.

The committee had been asked by Sir Keith Joseph, Secretary of State for Education and Science, to reconsider a recommendation for a wider distribution of money from the NAB's new £2.5 million research fund. Sir Keith preferred the board's scheme, giving at least £75,000 to 20 polytechnics and one college.

At an unscheduled meeting held last week at the Department of Education and Science, the committee agreed to abandon its alternative scheme, which gave allocations ranging from £15,000 to £150,000 to 36 institutions, including all the polytechnics. But the revised advice to Sir Keith included the rider that next year's allocations should cover more institutions and a wider spread of subjects.

Mr John Bevan, the NAB secretary, said this week that the advice had not been altered as a result of pressure from Sir Keith. The original decision had been taken at a meeting at which time constraints had prevented a full debate on the issues involved and it was now felt that a selective approach would offer a better platform for growth in subsequent years.

The decision to reverse the original advice was taken by consensus after a debate of less than an hour. Sir Keith announced his acceptance of the latest advice in the House of Commons this week.

Race report calls for shake-up

Sweeping improvements in teacher training are recommended as a vital element in achieving an "Education for All" strategy in the long-awaited Swann report into the education of ethnic minority children.

The report publishers this week says one major step would involve the setting up of teacher training institutions' specialist centres working on the needs of ethnic minority pupils and the implications of cultural diversity for "all-white" schools.

"The committee found that there was no single or simple reason why some ethnic minority pupils underachieved at school, but it exploded the myth of low intelligence particularly among West Indian pupils. It pointed out that socio-economic factors played a much greater role."

Among other improvements recommended for teacher training are a genuinely pluralist approach to education, high level award-bearing courses should be expanded. It also urges the expansion of access courses to higher education.

Education for All, the report of the Committee of Inquiry into the Education of Children from Ethnic Minority Groups, available from HMSO £24.

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Professional Association of Teachers, Freeport.

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Sir, — I am at a loss to understand your failure to explain, in the recent peer review of law (*THE*, February 8), that Northern Ireland is a separate legal jurisdiction and that this (as you acknowledged in relation to Scotland) could be relevant to the findings of the review.

Indeed the questionnaire (of which incidentally I did not receive a copy) itself appears to exclude the province — see especially question eight. Given the nature of the review as a whole, I could have ignored these shortcomings had you not also chosen to include in your commentary an adverse opinion of the publication output of this faculty expressed by the unnamed head of a polytechnic law department.

May I now, therefore, point out that this faculty *inter alia* received a "quality" rating in *The Sunday Times* "Good University Guide" in 1983, was one of the few law faculties to receive a "new blood" post in 1984 and recently received a commendation from the Northern Ireland legal publications (supported by outside funding of almost £200,000 over the past five years) the favourable assessment of the chairman of the University Grants Committee social studies subcommittee.

Yours faithfully,
D. S. GREER,
Dean, Faculty of Law,
The Queen's University,
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Decisive help

Sir, — John Ziman (*THE*, March 8) is of course correct to point out that "there is no technical device that can replace the messy factor of human judgement". But there are micro-computer programs, like the Brunel priority decision system embodying the proven judgement analysis method, which help humans improve their judgements, check them against validated standards of consistency and coherence, and advise them of judgements implied by their raw views and data which they cannot achieve unaided on many issues. Such built-in reliability checks ensure more reliable results are regularly achieved than through the outdated method Ziman cites.

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Sir, — Peter Aspin's analysis of how "uneconomic" pits can be assessed (*THE*, March 8) omits mention of the priority scaling method of valuing potential pit viability vis-à-vis potential investment levels. This method was recently used by National Coal Board and National Union of Mine-workers representatives via the budget-priority system to obtain agreement of what might, under varying circumstances, count as "uneconomic" on a pit-by-pit basis.

Yours faithfully,
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Planning director,
Institute of Work & Education.

Minsk feelings

Sir, — We read with interest David Ljunggren's article on his three months' study in Minsk, "Interpreting the Russian", (*THE*, March 1) and agree with most of his observations.

We were all on the same exchange, either in Voronezh or in Leningrad, and experienced the same mixed feelings as Mr Ljunggren.

While we can obviously only speak for our own centres we would like to temper Mr Ljunggren's comments on the language lessons. Far from being grammar-spewing automatons, the teachers were generally humane, committed and professional in their attitude. Wherever possible they accommodated individual requests and were happy to correct any work done outside lessons in their own time. To classify them simply as intransigent and unimaginative, however, is a little harsh.

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HILARY WILKINGTON
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Poly research

Sir, — Your leader (*THE*, February 22) on the National Advisory Body allocation of research funding displays a lack of knowledge and understanding of research in polytechnics second only to that of the working party who decided its distribution. The actual membership of this body appears, understandably, to be subject to the Official Secrets Act. However, it is known that this committee was made up of officers of the NAB, the Council for National Academic Awards, the Science and Engineering Research Council and Her Majesty's Inspectorate, groups of people in which distinguished researchers are seldom found. The identification of the so-called "first eleven", therefore, bears all the hallmarks of preconceptions based on superficial contact often many years

out of date. The selection stirs memories of the NAB withdrawal of approval of the technology and industrial studies course at Bristol based on a two-year-old inaccurate HMI report, and of the whimsical nomination of centres and subjects for MBG courses.

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ment to the educational function of the library in the local community. This collaborative venture resulted from an initiative of the chief librarian for Derbyshire who approached the university's East Midlands regional director when the library was planned. The new location is greatly welcomed by the director of the university's East Midlands region because it makes for stronger links between the OU and the local community. 4. The study centre was formally

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Far from accepting the board's scheme as you suggest, or even the committee's for that matter, Sir Keith should send them all back to the drawing board with revised and logical terms of reference and insist on the appointment of a working party with some expertise to carry out the task.

Yours faithfully,
R. B. SCHOFIELD,
Chairman,
Leeds Polytechnic research committee.

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Yours faithfully,
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2 Pound Cottages,
Paston,
North Walsham,
Norfolk.

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Yours sincerely,
NORMAN WOODS,
Director, East Midlands region,
Open University.

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Welsh colleges

Sir, — Your article on the decisions of the Welsh Advisory Body and the effect on Welsh colleges (*THE*, March 2) was revealing, was disappointing in that it failed to explain the underlying reasons for the differences between the polytechnic and other maintained establishments which were predictable in some cases and surprising in others, but your readers have been given a misleading impression of local authority higher education in Wales.

For instance, the article did not mention that the colleges and institutes of higher education have responsibility for a significant number of programme areas including teacher education and art and design, and that courses in these areas are not provided by the polytechnic. Neither did it indicate that the major degree-validating agency of the other maintained establishments is the University of Wales, and that resourcing of these courses must satisfy the stringent standards of the university. The fact of the matter is that the Welsh colleges and institutes are being funded by their local education authorities at a level comparable with the best of their English counterparts, and in some instances, on a par with English polytechnics. The Welsh other maintained establishments have provided a unique service for many years; they are staffed at appropriate levels with lecturers whose qualifications, dedication and commitment will match any.

The Polytechnic of Wales clearly deserves a better deal but this cannot be achieved by damaging the high standards and innovativeness of the other colleges in Wales. In the circumstances, the WAB decision is the right one for Wales.

Yours faithfully,

Union launches campaign for expansion programme

A Robbins-style expansion programme for the universities, with a doubling of places by the end of the century, is being sought by the Association of University Teachers.

"Launching a campaign to win the necessary resources," AUT general secretary Ms Diane Warwick accused ministers of deliberately aiming to reduce artificially the real demand for higher education.

"Unless the present policies of contraction are replaced by a commitment to planned expansion, thousands of parents will see their hopes for their

issued by the AUT this week and intended to convince politicians, fellow union members, parents and children of the need for more higher education.

It warns that Britain is in danger of being unable to respond as well to the new technological era as competitor countries already spending more on higher education.

The cuts since 1980/81, with a claimed 30,000 young people turned away from universities, meant Britain could not afford to take any more backward steps or even to mark time.

port after report shows how we are falling behind in scientific research and development compared with our main economic competitors."

It quotes a Department of Trade and Industry report which puts the current shortfall of graduates in key areas of technology at 1,500 and warns: "By 1987/88 the figure will rise to 5,000 unless higher education increases its output in line with ever-growing demand from industry."

Britain's ability to carry out effective research and development was also being impaired, with industrial sponsorship insufficient to close the gap left

demands, the growing need for continuing education and university education for non-traditional groups.

Dr Ron Emanuel, the AUT's president, said that investment in higher education was highly cost effective. "At today's prices it costs the country about £5,000 per year (including maintenance grant costs) to educate a student at university — an investment of only £15,000 for a three-year degree course. This investment will be returned many times over by graduates during their working lives."

Universities and Higher Education — The Case for Expansion. AUT, United

Letters to the editor

Academics and the outside world

Sir, - Alan Wilson's article (*THE*, March 8) belies the words in the title "humble role": it may have the opposite effect to that which he intends, namely to persuade the outside world of the value of academia.

How will an unconvincing non-academic judge his five invaluable areas of academic activity?

1. He will surely suggest that the body of knowledge created by academics is little used by others, that it serves mainly to get degrees and promotion, since publication still counts high, even more than teaching excellence.

2. Wilson argues that the academic communicates knowledge and skills to students. He is not alone, others do it too, but it is interesting that "attitudes" were omitted, the very

quality that needs personal contact the most. Furthermore many of the skills are far from real, they respond to forms and questions that are easy to mark. In engineering for example, there are many both in and out of academia who argue that students are taught to solve equations and are not put in front of problem solving or given open-ended questions with all the deficiencies in facts that problems from the real world present. Many argue for more synthesis alongside analysis and for design-orientated teaching.

3. Many school teachers grumble that the universities far from being the guardians of standards actually retard creative teaching through the sterility of their demands in A level examinations.

4. Wilson argues that academics could provide a body of generalists, intelligent and logical enough to be useful to contribute to the work of any outside body. This differs little from the concept that he deprecates that arts-trained generalists form the best senior civil servants and ministers, regardless of how technical their responsibility might be.

5. Academics as cultural interpreters? Surely there are as many specialists with tunnel vision in academia as there are outside? Especially in Britain and America.

This is all far too smug. It is to be doubted how many people will be persuaded by Wilson that they should leave the academics to use their own internal criteria for their work without outside criticism and that they should be free to play with their toys at the expense of society without challenge. Exposure to other abilities, attitudes and criteria is vital. Academia does need change and it can be done without prostituting intellectual standards even if more of its work can be used by society sooner or later.

But I not only agree with Wilson that there should be more interchange between academics and industry, but also between all parts of society - between government, civil service, the city, industry and business and academia.

Yours faithfully,
A. KENNAWAY,
Department of Mechanical Engineering,
Imperial College of Science and Technology.

British arrogance

Sir, - Professor Fowler's assertion that "Structuralism was France's best discovery of New Criticism" (*THE*, March 8) is a typically Anglo-Saxon establishment travesty of the situation. Anyone acquainted with French literature would be able to perceive a dynamic which should not be naturalized in Professor Fowler's terms. To describe "Derrida's deconstruction" as "an anti-philosophy of meaning" is a crudity which demeans the sort of putdown given to pretentious undergraduates.

It is precisely this kind of one-placeness which is at the heart of Britain's decline. While some of the French theory the most exciting thing since Wittgenstein, too many academics are leaning back in the chairs with expressions of benign indifference. Why is it so hard to believe that anything is really happening across the Channel? British arrogance is a subject of amusement and rage on the Continent, as standards of living rise there and fall here. Is it not possible that those wretched foreigners know something we don't?

When we are going to unload on empiricist prejudices and admit the possibility of new kinds of knowledge? Professor Fowler's prejudices are exposed in his article as too numerous to list here, but I will mention the contrast between Leavis's "assessing convinced view of literature" and "Fry's archetypal criticism" (...) characterized by dogmatic stasis. Why is not Leavis "dogmatic" and Fry "convicted"? Is it to do with the fact that Leavis was at Cambridge and Fry was in the wilderness of north America? I hope *THE* will shortly give us a more detached view of the state of English studies. If they are in "a difficult time" perhaps it is more to do with myopia than lack of rumour.

Yours faithfully,
PAUL SHAW,
Research student,
University College, Swansea.

Strathclyde cuts plan attacked

by Olga Wojtas
Scottish Correspondent

There has been shock and anger among Strathclyde University staff over a higher education plan to cut 500 student places and axe 150 posts over the next five years.

The plan, drawn up by five senior staff, was expected to be strongly attacked at the senate this week, a fortnight after Strathclyde issued a statement that cuts in Government funding in the foreseeable future would inevitably mean staff losses.

Mr David Morrell, the university registrar and one of the plan's authors, said Strathclyde was totally averse to the concept of compulsory redundancy. "But it would be wrong to say it was entirely confident this could be avoided," he said.

The plan hits hardest at arts and social studies, already the smallest faculty, suggesting that some courses should be axed by the coming session. Arts and social studies were not

represented on the group drawing up the plan, which has been ratified by the university's joint policy committee. The five members were the university registrar and bursar, and Strathclyde's vice principal and two deputy principals who hold respectively the chairs of chemistry, marketing and electrical engineering.

The document proposes student cuts of 232 in the business school, 215 in arts and social studies, and 150 in science, with an increase of 100 students in engineering.

It envisages a loss of 45 academic staff in arts and social studies, with 12 posts being lost in science, 10 in engineering and 10 in the business school. Another 50 technical and 30 clerical posts would also be cut.

Art and social studies would remain viable in 1989 with about 55 full-time academic staff if these were redistributed over five or six departments only, the paper warns. In an obvious euphemism for rationalization, it reminds the faculty of University Grants

Committee advice for "increased collaboration" with Glasgow University.

The Association of University Teachers has called for independent accountants to examine Strathclyde's finances. Mr David Bleiman, the AUT's regional official, said: "We recognize that like any university Strathclyde has to cope with pressures created by Government cash limits, but we don't think the situation is as serious as the university thinks."

Mr Alan Smart, Scottish president of the National Union of Students, has warned that the union will consider legal action if Strathclyde accepts proposals to axe courses for which students have already been accepted.

He added that the report was flying in the face of Strathclyde's statement that more women should be offered opportunities. He pointed out that 65 per cent of arts students were women, as were 48 per cent of business studies and 40 per cent of science students, compared to 35 per cent of Strathclyde's total student population.

CNA A seeks to amend charter and statutes

by Karen Gold

The Council for National Academic Awards is to seek permission from the Government to change its charter and statutes so it can allow institutions to approve and award their own degrees.

At its spring meeting this week the council agreed unanimously that its chairman's study group should have talks with Department of Education and Science officials, and if necessary with ministers, to ask for the Government's views on charter changes. All amendments to royal charters have to be approved by the Privy Council and therefore need Government support.

The changes the council considered would allow institutions to receive delegated powers to approve degrees through their internal validation processes and to award their degrees, meaning that the institution's name rather than the council's would be on the degree certificates.

Such powers would be an extension of the council's proposed "Mode B" scheme of devolved validation, under which institutions would carry out their own validation monitored by the CNA A. Reactions to Mode B, which was proposed at the end of last year and designed to avoid the need for charter and statutes changes, were distinctly unenthusiastic.

The CNA A's chief officer, Dr Edwin Kerr, said that both institutions and the council's own subject boards had said if charter changes were

needed for more flexible validation they should be sought.

The delegation of approval and awarding of degrees would be only to some institutions, and would be dependent on those institutions inviting members of the council to their internal reviews and having their devolved powers reviewed every five or seven years, he said.

"Rather than the council being responsible for the organization of reviews... institutions would become the organizers of the review and would involve the partners the council members in the internal procedures at their invitation," he said. "They would keep the council informed so the council would have national competence."

The Lindop committee of inquiry's report into public sector validation, which is shortly to go to ministers, is expected to recommend legal changes to allow mature institutions to approve and award their own degrees.

Dr Kerr said that the proposals had been planned for the council before any of Lindop's recommendations were known, though the committee's inquiry had obviously accelerated the CNA A's timetable for devolving its powers.

"The tone of the whole council discussion was that this was the right time to make such a decision, and that we should be very forward-looking and very positive towards such a change," he said.

NAB settles on selective research aid

by John O'Leary

Research funding for polytechnics and colleges will after all follow the highly selective pattern advocated by the board of the National Advisory Body, after an about-turn by local authority leaders on the NAB committee.

The committee had been asked by Sir Keith Joseph, Secretary of State for Education and Science, to reconsider a recommendation for a wider distribution of money from the NAB's new £2.5 million research fund. Sir Keith preferred the board's scheme, giving at least £75,000 to 20 polytechnics and one college.

At an unscheduled meeting held last week at the Department of Education and Science, the committee agreed to abandon its alternative scheme, which gave allocations ranging from £15,000 to £150,000 to 36 institutions, including all the polytechnics. But the revised advice to Sir Keith included the rider that next year's allocations should cover more institutions and a wider spread of subjects.

Mr John Bevan, the NAB secretary, said this week that the advice had not been altered as a result of pressure from Sir Keith. The original decision had been taken at a meeting at which time constraints had prevented a full debate on the issues involved and was now felt that a selective approach would offer a better platform for growth in subsequent years.

The decision to reverse the original advice was taken by consensus after a debate of just less than an hour. Sir Keith announced his acceptance of the latest advice in the House of Commons this week.

Race report calls for shake-up

Sweeping improvements in teacher training are recommended as a vital element in achieving an "Education for All" strategy in the long-awaited Swann report into the education of ethnic minority pupils and the implications of cultural diversity for "all-white" schools.

The report publishers this week say one major step would involve the "setting up of teacher training institutions specialising in the needs of ethnic minority pupils and the needs of cultural diversity for all-white schools."

The committee found that there was no single or simple reason why some ethnic minority pupils underachieved at school, but it exploded the myth of low intelligence, particularly among West Indian pupils. It pointed out that socio-economic factors played a much greater role.

Among other improvements recommended for teacher training are a genuinely pluralist approach to education. Coverage of multicultural issues within high level award-bearing courses should be expanded. It also urges the expansion of access courses to higher education.

Education for All, the report of the Committee of Inquiry into the Education of Children from Ethnic Minority Groups, available from HMSO £24.

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Yours faithfully,
GERALD STOCKDALE,
Principal,
West Glamorgan Institute of Higher Education.

Plagiarism inquiry 'a sham'

A research assistant at UMIST who has made allegations of plagiarism said this week that the institute had ignored *prima facie* evidence of gross academic malpractice for seven months.

Mr Tony Coyle, who has made a series of allegations concerning research work and theses at the University of Manchester's Institute of Science and Technology's department of management sciences said he had provided detailed documentary evidence in September 1984.

After the allegations appeared in *THE*, UMIST set up a dean's inquiry to look at the "academic aspects" of the case and invited Mr Coyle to pursue his allegations through a grievance committee.

This week Mr Coyle said the inquiry was "a sham". "This systematic inability to address questions, and examine evidence, of impropriety in examination procedures and practices would appear to debase the entire currency of graduate and postgraduate qualifications in the institute. UMIST by its very incompetence and dilatoriness has become an unwitting progenitor of a plagiarist's charter."

He said that to suggest that allegations of gross and repeated negligence in postgraduate supervision and examination could be addressed and remedied through personal grievance machinery could "only invite universal ridicule and contempt".

Mr Coyle made his remarks after UMIST issued a statement by Mr Tony Russell, chairman of the council, rejecting an earlier charge that the grievance procedure was not the adequate and competent body to examine the allegations.

The grievance committee is the only body in a position to ensure, through its very fair and even-handed procedures, that the matters of which you complain will be fully considered and that those against whom you make allegations are given the proper opportunity to be heard. Mr Coyle was told.

The committee will be chaired by Mr H.K. Goddard, a QC and lay member of the UMIST council. There will be four other members of the council, two lay and two elected, plus "a distinguished academic from outside UMIST" who is not yet named. The dean's inquiry will continue separately.

A Robbins-style expansion programme for the universities, with a doubling of places by the end of the century, is being sought by the Association of University Teachers.

Launching a campaign to win the necessary resources, AUT general secretary Ms Diana Warwick accused ministers of deliberately aiming to reduce artificially the real demand for higher education.

Unless the present policies of contraction are replaced by a commitment to planned expansion, thousands of parents will see their hopes for their children cruelly shattered over the next few years, she said.

The rationale behind the expansion programme is contained in a pamphlet



Fifty eight crews from Oxford and Cambridge colleges took to the River Cam last weekend if an effort to raise almost £15,000 for Ethiopia. The sponsored row, which was organised by Emmanuel College boat club, began at Jesus Lock in the centre of Cambridge and took the crews as far as Ely and back, a total distance of 28 miles.

Tax incentive call to Lawson

continued from front page

the USA and has told both the Treasury and the Department of Education and Science that it would step up its contribution in Britain, given similar tax breaks.

Sir Keith has given a sympathetic hearing to the proposals but offered little encouragement to Mr Lawson in a recent letter on the subject. Mr Lawson is known to favour a policy of "fiscal neutrality", reducing individual concessions in favour of reductions in overall rates of tax.

The American taxation system has traditionally encouraged charitable donations of all sorts, and higher education has been a major beneficiary. Corporations are permitted to make tax-deductible gifts of up to 5 per cent of their total taxable income. Few go quite that far, but the last published

figures show that in 1983 a total of \$1.29 billion was given to colleges and universities by industry.

There are also generous tax benefits for research funding, and best estimates put the current benefits to universities at about \$1.5 billion.

Gifts from private individuals, who are allowed by current tax rules to donate as much as 50 per cent of their income and deduct it from their taxes, son is known to favour a policy of "fiscal neutrality", reducing individual concessions in favour of reductions in overall rates of tax.

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Union launches campaign for expansion programme

A Robbins-style expansion programme for the universities, with a doubling of places by the end of the century, is being sought by the Association of University Teachers.

Launching a campaign to win the necessary resources, AUT general secretary Ms Diana Warwick accused ministers of deliberately aiming to reduce artificially the real demand for higher education.

The cuts, since 1980/81, with a claimed 30,000 young people turned away from university meant Britain could not afford to take any more backward steps or even to mark time.

The most advanced sectors of industry are already reporting significant skill shortages and an increasing output of "good graduates", the AUT says. "Re-

port after report shows how we are falling behind in scientific research and development compared with our main economic competitors."

It quotes a Department of Trade and Industry report which puts the current shortfall of graduates in key areas of technology at 1,500 and warns: "By 1987/88 the figure will rise to 5,000 unless higher education increases its output in line with ever-growing demand from industry."

Britain's ability to carry out effective research and development was also being impaired, with industrial sponsorship insufficient to close the gap left by cuts in funding to universities and the research councils.

There were also social and cultural

demands, the growing need for continuing education and university education for non-traditional groups.

Dr Ron Emmanuel, the AUT's president, said that investment in higher education was highly cost effective.

"At today's prices it costs the country about £5,000 per year (including maintenance grant costs) to educate a student at university - an investment of only £15,000 for a three-year degree course. This investment will be returned many times over by graduates during their working lives."

Universities and Higher Education - The Case for Expansion, AUT, United House, 17 Fembroke Road, London W11 3JH.

DON'S
DIARY

From time to time, enjoying a late pint in the Museum Tavern before returning to the Reading Room, one would cringe at the absurdity of English law and the insensitivity of the harman called upon to enforce it, as some uncomprehending family of exhausted Dutch tourists were unceremoniously turned away for daring to desire refreshment after the hour of three. California inflicts its own peculiar indignities upon the traveller: last night in Palo Alto's New Varsity Cinema (it shows good films too), I watched with a sort of helpless rage as two French girls were told that without "picture ID" proving them to be over 21 they could not have a drink. I don't know how I am going to break this news to my 14-year-old daughter, who has been brewing her own beer and vinting her own wine since her early teens and whose letters are full of exploits which would not have disgraced the energetic and indestructible Sir Robert Peel, when she comes out to visit me after her A level mocks. (Memo: when did young women of that age stop saying "Mummy" and start saying "Mother"? I took refuge in another glass of Wild Turkey, a bourbon whose ruggedly individualistic character distinguishes it from the widely advertised Jim Beam and the like, as an Armagnac is distinguished from a Cognac or a West Highland malt from the boring products of Speyside. Only, though I have been drinking it for years, I asked for "Wild Duck": so too are

efforts to break up Reagan, Stalin or Lenin, Marmaduke Hussey (the most recent one) for William Rees-Mogg: what is the problem? (senility?) and what is the solution? (death?), better proof readers?)

Anyway the concept of "ID" is all-pervasive here (try writing a cheque), so much so that students in my 20th-century Britain colloquium, having read somewhere that 1914 brought to an end an era in which people could travel freely without passports, interpreted this as meaning that henceforth all British citizens going about their domestic business had to carry "ID". My own proclivities have tended to push the colloquium towards social and cultural history. My students, whose main interests are in political, international, and imperial history, regard this as somewhat of a trendy British fad. On the contrary, I tell them, social history is now as passé as the winging sixties: look at Norman Stone's appointment to that Oxford chair; look at the latest textbook, the one in fact I use for the colloquium, *The Eclipse of a Great Power* by Keith Robbins, which eschews all social narrative, all evaluation of changing values and changing standards of self-fulfilment in order, in highly schematic and encapsulated chapters, to concentrate on the central issue of Britain's bungled transition from an Imperial to a European role.

My class being bigger than was expected, Robbins sold out on the first day of term, and will not be available again till a few days short of the last. One book, however, which is readily available, and has been continuously for 20 years, is "Optional reading": *The Deluge: British Society and the First World War*. But perhaps the days of that spirited old volume are now numbered. Jay Winter, of St John's, Cambridge, has almost completed his book on *The British People and the First World War*, a much more detailed study than it was possible for me to write in the early 1960s when the 50-year rule still prevailed and my only statistical resource was a mathematical economist who lived across the way from me in Edinburgh, and who guided me away from the cruder mathematical errors.

With respect to the positive benefits which emerged from the horrific tragedy of war, Dr Winter's conclusions are remarkably similar to my own: as A. J. P. Taylor once wrote to me, commenting upon the notable congruence between his conclusions in *English History 1914-45* and those of *The Deluge*, which had appeared earlier the same year, "This proves we are both right".

My colloquium meets only once a week and only during the latter half of my sojourn at Stanford. My main post is as visiting scholar at the Hoover Institution, a house somewhat divided over the merits of the researches I have been vigorously pursuing since late October. Some agree with me that the study of "Beauty and Ugliness in Western Society: the Social and Political Implications of Personal Appearance, 1500-1985" could be the innovative development in social history since, let us say, the Bobsawm-Rudé-Thompson initiatives in "history from below". The high directorate (recently lauded by President Reagan for the Hoover's contributions to presidential policy-making) incline to the view that it's a load of old rubbish. The only seminar I am giving within the Hoover itself is on the upper class; the first public communication of my findings on Beauty takes place next week in the oak-pannelled chamber where foregather the regents of the State University of California at Berkeley, scene of many a merry sit-in in 1968/69. For the moment I shall say no more than that I have found Darwin and Freud sounder guides than Foucault, feminism, hermeneutics, Marx, structuralism, post-structuralism, or Berger, and that I believe that the potentially fruitful notion that "everything is socially constructed" has now been pushed to absurd lengths, beauty, quite definitely, is not socially constructed; not, despite the fact that centring philosophers have been insisting on the contrary for centuries, is "truth" or "goodness". It is not more than skin deep, but, by golly, it's a valuable quality to have.

In many ways this is a cruel and gloomy message, yet in casual conversation I have the subject talked about as if it is and not as something else. One such conversation, with an elegant Atlanta, disciple of Bishop Berkeley, graduate of Trinity College, Dublin, one-time BBC man in London (who seriously considered applying for British citizenship), took me to a private view at Palo Alto's leading photographic gallery. Some of the shots of Californian canyons were pretty striking, but then they were pretty striking canyons to start off with. The arty-farty stuff - gowns under-water to give a flowing effect, and so on - I don't care for. I prefer my photographs as historical documents just as I believe that historians should never dare to believe that their scribbles come anywhere near to creative literature.

While cogitating along these lines, I was astounded to find myself accosted by a stunningly beautiful young woman who had made a beeline for me (the cliché is justified) through the wine-sipping connoisseurs of photography. Was I in a dream? No, she was just a gallery saleswoman who thought she'd spotted an arty-farty mug.

The Stanford campus, all cloisters and palm trees, is marvellously beautiful, especially with the winter sun shining on it (some winter! some sun!). On the tennis courts, pranced upon for one brief year by McEnroe, my performances have been abysmal, but in the twice-weekly lunch-time football (soccer) games I am in my element - after all I've had almost half-a-century of practice. The new twist is the sexual integration: women (including a mother of two) play as well, and they play as well as the men.

Whadya mean, ego-centric? This is a diary isn't it? Try reading some of the diaries in the Imperial War Museum, or in the Hoover archives.

Arthur Marwick

The author is professor of history at the Open University and is at present visiting scholar at the Hoover Institution.

Police action 'unnecessary'

by David Jobbins

Student leaders made arrangements for Mr Leon Brittan, the Home Secretary, to use an alternative entrance when he visited Manchester University student union. This rendered it unnecessary for police to break up a peaceful picket at the main door, it was claimed this week.

Mr Craig Russell, the Manchester University union general secretary, said details of the alternative arrangements, including an assurance from students organizing the demonstration that they would not block the second entrance, had been communicated to local police and a Conservative Party agent in the city.

But shortly before Mr Brittan's arrival to address the meeting organized by the Conservative Association earlier this month, police believed to be from the elite Tactical Aid Group moved on the 500 demonstrators in an attempt to clear the main entrance. Several students were injured and the incident has led to calls for a public inquiry from the National Union of Students, all the political groups at Manchester including the Conservatives, and the Greater Manchester Police Authority.

Mr Phil Woolas, president of the NUS, said this week: "I understand some of the injuries were pretty nasty." If it was the case that Mr Brittan or the police had deliberately chosen to ignore the alternative arrangements which had been agreed with the university "they were acting irresponsibly in forcing the student union executive to choose between cancelling the meeting and thereby facing accusations of denial of freedom of speech or allowing their members to be subjected to police harassment".

The Manchester University Association of University Teachers this week also called for an independent

inquiry. Mr David Wilkin, secretary of the local AUT, said they regarded police action as very intrusive, and the student union executive had been responsible in informing the authorities that Mr Brittan could use an alternative entrance. AUT members had given first aid to some of the injured, he added.

Mr Wilkin said: "The police charged into the students. We defend the right to freedom of speech but we defend the right to freedom of assembly. The police that day were challenging the students' right to freedom of assembly."

Manchester police have asked John Redington, the deputy constable of Avon and Somerset, to carry out an inquiry into the way the demonstration was handled. A number of students are due to appear in court in Manchester today on a charge of charges arising from the incident.

Poly accused of misusing block grant for Libyan deal

by Karen Gold

The Inner London Education Authority has accused a polytechnic of using its block grant income for trading in an abortive contract to teach Libyan students, as the polytechnic's staff prepare to fly to Libya to rescue the teaching scheme.

A Polytechnic of Central London delegation is to fly to Tripoli next week to resume talks on plans to teach Libyan students at a college in Malta. The Libyans ended the contract after courses had already begun, it is thought over uncertainties about the course's validation. The polytechnic has been left with a deficit of £193,954 following the failure of the scheme.

A special meeting of PCL court of governors next Monday is to look at the scheme, and at plans to transfer the contract to a company the polytechnic has established, PCL International. The proposal would transfer the losses to the company, while it remained in debt to the polytechnic in order to remain trading.

The plans say "PCL will be a debtor of PCL, but PCL will not regard this as a bad debt."

But the Inner London Education

Authority, which legally funds the polytechnic, has written to PCL director Professor Terence Burlin saying it is seriously concerned about the proposal.

"The authority has no time given agreement to the use directly or indirectly of the authority provided funds of the polytechnic for the support of the polytechnic's International Services activities," says a letter from ILEA's education officer. "It is a reality very difficult to imagine what possible justification there could be shown not to be *ultra vires* (exceeding its powers)..."

"It seems... that the polytechnic is in effect to lend funds to PCL in order to enable the latter to remain trading while carrying the Libyan contract losses. If this is so then the transfer of the contract to a company should make the involvement explicit and we would very seriously concerned."

The letter adds that claims that the polytechnic earned outside profits in previous years which could be set against the Libyan loss are doubly ILEA, "in view of the admitted inaccuracies in the accounts basis... highlighted by the auditors."

Westfield looks to the future

The future of Westfield College, London - one of the most integral parts of the reorganization of London University - is to be decided by a joint working party of the university court and the senate.

The working party, chaired by Sir Michael Clapham, vice chairman of the university court, will look at various options already proposed by the college on future links with other parts of London.

These include teaching or accommodation links with University College, King's College or the Royal Veterinary College - or a combination of all three. One of the most important considerations for the working group is the use of Westfield's Queen's building, a prime site for science-based activities.

Talks have already taken place be-

tween King's and Westfield over the use of the Queen's building, which could lead to the eventual sale of the King's Road site of the new King's Queen Elizabeth/Chelsea college complex.

The principal of Westfield, Professor John Varoy, said the college had already discussed various proposals for its own future, and now the working party would be making a more detailed examination. "There are still various possibilities being considered, which have to consider the college's aspirations and the overall restructuring of the university and its investment appraisals," he said.

The other members of the working party are Professor Jeremy Cowan, Professor Robert Howie, Sir James Menter, Dr Bruce MacGillivray, Sir Philip Rogers and Professor Dorothy Wedderburn.



NELP debates name change

North East London has joined the band of polytechnics debating a name change to university, following discussions of similar changes at Portsmouth, Plymouth and Middlesex polytechnics. The governors and the academic board at NELP have discussed the change without reaching a decision, according to director Mr Gerry Fowler. No name has emerged, although a committee of the academic board did agree that the new name should include the words "London" and "University". They were unable to agree on anything else.

Options rejected included using the names of the local authorities responsible for the polytechnic - Barking, Newham and Waltham Forest - the region, such as "Lea Valley University", or the name of a famous local figure.

The debate took place partly because of the moves by Middlesex, Portsmouth and Plymouth to add the word "University" to their titles, but also because of a new acceptance in the National Advisory Body that polytechnics wanting to call themselves universities ought to be able to do so, said Mr Fowler.

In addition staff, and students at NELP are tired of being confused with the Polytechnic of North London, he said.

Although the schools are expected to show an operating profit within five years, the project has only got off the ground because of the injection of private capital. Both Cambridge and Sudbury are putting up more than £1

million.

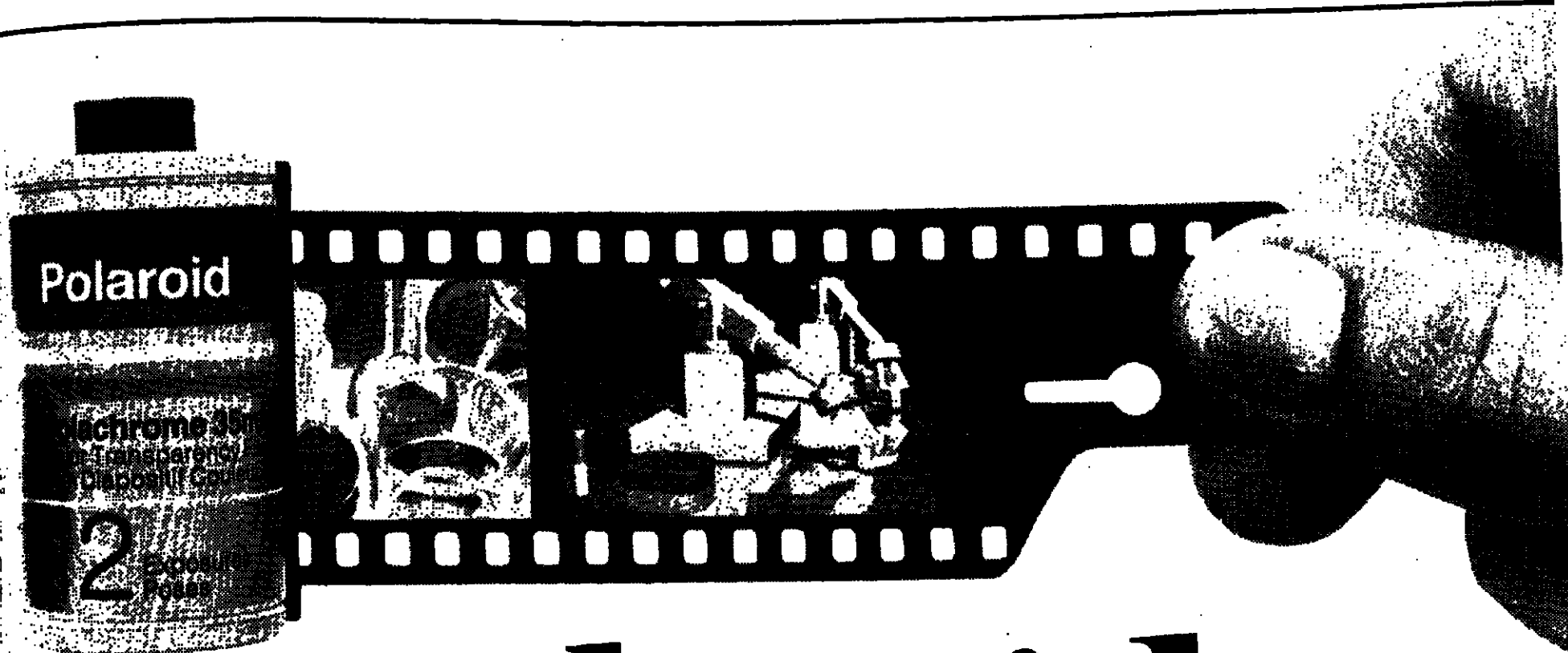
Mr Roddy Cavallero, deputy director general of the council, said this week that other joint ventures would be welcomed where suitable partners could be found. "If the British Council is on a declining budget, as it is, one way it can prevent its activities declining significantly to generate revenue itself," he said. "For example, we would really like to open up in Brunel and we are looking for partners there."

Successive rounds of cuts have left the council with little room to manoeuvre in its own. The latest economic measures will mean the closure of the Oporto office and the indefinite postponement of plans for a new office in Shanghai.

A statement on the council's finances expressed frustration at the postponement of the Shanghai pro-

ject at a time when China is in the throes of modernizing its educational system with considerable outside help. Only last week the council announced that it had won a £2.5 million contract to recruit staff to help develop China's television, universities and polytechnics.

The Cambridge syndicate, which has the status of a university department, hopes that the Japanese project will lead to a big expansion of its activities in the Far East. In addition to its involvement in the three language schools, UCLES has supplied a consultant to advise on English testing at Tsukuba University, which now demands proficiency in English from all its students. The syndicate now has 100,000 students sitting examinations abroad but faces stiff competition from the United States, especially in Japan.



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With many thanks from a grateful pupil . . .



John Lucas: well-known figure

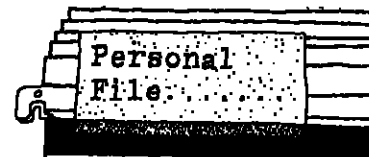
by Paul Flather

An Oxford don has dedicated his new book to all those who ever taught him, including characters who go under the names of Jacko, Bruno, Fuzz, Tubby, Yatto, Tarbox, the Dicker and the Jacker.

Mr John Lucas, a philosophy tutor at Merion College, wanted to thank all those from his preparatory school days at Sunnydown, near Guildford, to his days at Oxford, who had had a hand in teaching him.

"I sense that teachers receive rather little thanks from academics who have been able to pass on in writing what they learnt by word of mouth in class," Mr Lucas explained. "This is my way of saying thank you."

In all, 52 names appear in the dedication at the front of *Space, Time and Causality*, published last week by Oxford University Press - including



five from Sunnydown, 18 from the Dragon School, Oxford, 21 from Winchester, and seven from Oxford. Pride of place goes to Eric James, now Lord James, who taught Mr Lucas chemistry at Winchester, though after winning a scholarship to Oxford to read the subject Mr Lucas switched to Greats.

There is for example John Manisty who had the task of teaching differential calculus to Mr Lucas at Winchester. At Oxford he pays a debt to among others, H. L. Hart, the former professor of law, and Dick Hare, former professor of philosophy.

Mr Lucas is a well-known figure around Oxford. He drives an old car that was requisitioned for the filming of *Bridges and Revisited*, and he keeps Chinese armour in his rooms at Merion where he has spent the last 25 years.

He has written papers on many different topics including philosophy of mathematics, artificial intelligence, justice, and equality. One paper on feminism, called *Vive La Difference*, begins with the immortal line: "Some of my best friends are women, but I would not want my sister to marry one."

He has tried in vain to contact all those on his list. Many of course are dead, though he has received numerous letters of thanks from the sons and daughters of his teachers. He is particularly keen to trace those who taught him at Sunnydown, which closed during the war.

How to engineer diversity

by Patricia Santinelli

Contrary to Government intentions, the setting up of the Technological Education Council increased the number of courses rather than reduced them. The Inspectorate says this week on TEC part-time higher engineering courses.

But the HMI points out intentions of the HMI were in direct conflict with the intentions for meeting industrial relevance, and that the diversity has provided more for students and opportunity.

The HMI survey was carried out in the spring and summer of 1984 prior to the merger of TEC and Business Education Council. Therefore does not take account of changes introduced since the merger of the Business and Technological Education Council.

Nevertheless the Inspectorate says that colleges could be more successful in ensuring both that the aims of the programme as a whole are achieved, and that patterns of delivery are appropriate to these.

It stresses, however, that the problems of assessment as such are not significant, the extra burden imposed on staff was not insurmountable. Staff development is much more likely to have been supported by the development of learning styles appropriate to the higher education aims.

The Inspectorate adds that students were concerned, but the constraint was the time available for study. Contrary to expectations, the release and sandwich patterns had become the preferred modes of delivery, and the limitations of release were obvious, particularly long working days.

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Jack Straw

The author is Labour MP for Blackburn.

Academics fear MI5 tapping

by David Leppard

Fears that MI5, Britain's internal security service, wrongly conducts surveillance of some left-wing academics were raised this week in the wake of the controversial Channel 4 film, *MI5 Official Secrets*, and suggestions that the Government is shortly to review the service's surveillance procedures.

Mr Larry Gostin, the general secretary of the National Council for Civil Liberties and former visiting professor in law at Oxford University's centre for criminological research, says that he is almost certain that MI5 has an academic desk.

Mr Gostin said that any telephone surveillance of academics simply because they were academics was likely to be in breach of the Government's guidelines to the security services on telephone tapping and other forms of undercover monitoring.

A report in the Oxford University student newspaper *Charwell* says that Dr Andrew Glynn, an economics tutor at Corpus Christi College, believed that his telephone had been tapped.

Last year Dr Glynn was commissioned by the National Union of Mineworkers to write a report on the National Coal Board criteria for closing "uneconomic" pits.

The Government's guidelines on undercover surveillance were first laid down in a directive from the then Home Secretary Sir David Maxwell-Fyfe to the director general of the security service in 1952.

The directive stated that MI5 should be kept "absolutely free of any political bias or influence" and that it should do nothing to suggest that it was concerned with the interest of any particular section of community or with any other matter than the defence of the realm as a whole.

Mr Gostin said that MI5 might consider that membership by academics of certain political organisations would justify surveillance under a new definition of subversion laid down by the Home Office last December.

The guidelines state: "Subversive activities are those which threaten the safety or wellbeing of the state and

which are intended to undermine or overthrow parliamentary democracy by political, industrial or violent means."

Mr Stephen Norris, Conservative MP for Oxford East, said: "I think that without doubt there is an academic desk at MI5, just as there is an industrial, a political and a defence desk."

Mr Norris said that if the Government's guidelines on security surveillance were to be employed when I can't believe that anyone in the universities is likely to be under surveillance just because they are academics. But he felt certain that academics who were known to be members of "extreme" political organisations would be under routine MI5 surveillance.

Such organisations would include the Communist Party, the Trotskyist Party, the Socialist Workers' Party and the Campaign for Nuclear Disarmament. Mr Norris added that, with reference to academics: "I can't say that the guidelines are being broken, but it is legitimate to put a point in the form of a general rhetorical question."

Edinburgh set to go £1 million into the red, warns principal

The principal of Edinburgh University has warned that it faces a deficit of more than £1 million by the end of next session.

And Dr John Burnett told a university court meeting that an annual reduction of 1½ per cent in its grant would lead to a deficit of £4.8 million in 1988, entirely depleting the university's reserves and leading to an accumulated deficit of £8.7 million.

The court has decided to reimpose a moratorium on filling vacant posts from the autumn. The previous moratorium, imposed as a result of the 1981 University Grants Committee cuts, was lifted in August 1983.

Dr Burnett said that during the three years of UGC volume cuts, the university had lost a large number of senior posts, considerably reducing the numbers who are now reaching retirement age. In the coming year, only eight staff will retire out of a total of more than 1,300, resulting in a maximum saving of only £160,000.

But the Government's policy, despite UGC advice, is for an annual reduction in universities' grants, said Dr Burnett.

"Round about 1988 unless there is an appreciable injection of funds, or machinery provided whereby staff can be dismissed or take early retirement,

then we will be in a position of a deficit increasing annually," he said.

The public thought that the universities had survived the cuts, but this was not the case, Dr Burnett said. He was talking about Edinburgh, but the problem was not unique to one university.

"We are now frankly in the situation where sooner or later every university is going to go into deficit, which is going to accumulate," he said.

Dr Burnett said the university refused to set a target of posts to be lost. The university had no means for losing staff other than through retirement, he added. But it was now questionable whether two major projects, to replace

Edinburgh's obsolescent (teletype) system and to continue automating the library, would be completed.

Dr Dundee and St Andrews Universities, which separated in 1982, were poised to reject any question of reunification.

A report to Dundee University court this week, which is also likely to go before St Andrews court on Monday, is understood to recommend increased collaboration between the two institutions but to oppose a merger. Dundee and St Andrews have been holding informal meetings since the University Grants Committee's views on mergers.

PARTY LINE

Well, you can't budget for everything . . .

least because of a significant increase in public borrowing. This public borrowing was in turn forcing up interest rates and crowding out productive private investment. If we got public borrowing down, interest rates would fall; as they fell there would be a surge of investment by private companies. The fall in public borrowing, and other measures would also lead to a fall in the rate of growth of the money supply which would choke off inflation. But since inflation was the cause of unemployment, this reduction in inflation, after a short-term adjustment, would lead to a rise in output and employment.

What really started me thinking was one rainy Thursday afternoon when Douglas Jay stood up during Treasury Questions and launched "Would the Chancellor say whether his economic policy was working out as intended?" There wasn't really a yes or no; it was a question of whether it was working in 1980.

just when it should have gone right. First, inflation rose when it should have fallen; then the money supply got out of control. But the real problem was that the cure we prescribed for this rise in interest rates was worse than the disease. To get the money supply down we pushed up interest rates. But companies were so desperate for cash they carried on borrowing, and in some cases inventing new forms of credit outside the official statistics.

So we had to put up interest rates again. Companies had to borrow to repay the interest on their previous borrowing. Even this didn't seem to do much for the money supply, but it did for the pound. It rose to £2.40 and went. Those companies which had just managed to survive the previous year's credit crunch then got kicked in the teeth by a collapse of export orders, and competing imports often cheaper than the raw materials costs of the British equivalent. I'm told now that the collapse in industrial production between 1979 and

1981 was greater even than during the Great Slump of 1929-1931.

Amazing. Then there's public expenditure. We've certainly cut some programmes to the bone. Industrial assistance has been slashed. Expenditure on housing has collapsed. (Sometimes I wonder whether this level of unemployment in the building industry, but Keith Joseph has given the universities a good thumping. They deserved it anyway. Overall, public expenditure has not fallen, indeed, in real terms, it has risen by £9 billion from £112 billion in 1979-1980 to £121 billion next year. It just seems to have gone on the wrong things - like unemployment benefit. I know, we should have cut that even more.

As for the Public Sector Borrowing Requirement - I give up. That's the one unqualified success story. As there's of Gross Domestic

Product it is half its 1979 level - and is now among the lowest in the Western world. But nothing else has followed from this. It was supposed to lead to lower interest rates. But, in real terms, interest rates are now their highest for 50 years and, in nominal terms, pretty astonishing too. Even on inflation I've now discovered that our record isn't so brilliant as we have cracked it up to be. It is still higher than the US, West Germany and Japan. It was in 1979. Indeed, the only area where we've outdone every other major nation is unemployment. We've certainly not been mediocre there.

Now I'm told that Douglas Jay has produced a new book, explaining the error of our ways. The *Financial Times* has called it "muzzling", which makes it rather amusing, but I suppose I'd better read it. I might learn something. But not before March 19. After all, our budgets haven't ever really been about macro-economic policy, but social policy. We've made the rich richer. We shall continue to do so. It's the one area where we're definitely not for turning.

* *Sterling by Douglas Jay (Sidgwick & Jackson, £15).*

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- 1 SN40 network server with one 720K floppy disc drive, one 40MB high speed Winchester disc drive, 320K RAM, 680K ultra high speed silicon disc

Software

- Word processing: Microsoft WORD, with mouse operation, multiple on-screen fonts and windowing
- Spreadsheets: Multiplan
- Database: Superfile, Superdatabases, Superforms
- Graphics: RM CAD, An entry level, 2D graphics package
- Languages: A paintbrush package
- Business: RM BASIC, RM LOGO, RM PASCAL
- Assembler: PEGASUS. A full professional suite, with multi-user capabilities, offering Sales Ledger, Purchase Ledger, Nominal Ledger, Invoicing, Payroll and Stock Control

RM NIMBUS RECENT PRESS COMMENTS

"The world of 16-bit software is opened up through MS-DOS. But perhaps the most exciting feature of Nimbus is its expansion potential." (Educational Computing, Feb 1985)

"The commercial market will be very interested in Nimbus." (Computer Weekly, 31.01.85.)

"The Nimbus is an impressive system. The graphics are superb, and the whole system well thought out." (Practical Computing, Mar 1985.)

"Research Machines brilliant new Nimbus." (Guardian, 24.01.85.)

"The RM Nimbus has an incredible specification for a machine with a (commercial list) price starting at £1395." (Practical Computing News, 02.02.85.)





Learning from the Japanese

The Prime Minister has made much in recent months of the success of the Japanese economy. During Prime Minister's question time on February 28, he referred to what was happening in Japan. Although the deal then with their growth of small businesses, one certainly feels that it is part of the Government's philosophy that Japan provides us with a vision of the future. The Prime Minister and her senior civil servants would be well advised to look a little more closely at the plans for Japanese science.

Little publicity has been given to a report issued in December 1984 entitled *Tackling changing conditions: Comprehensive and fundamental policies for long-term promotion of science and technology*. This was a report produced by the Japanese Council for Science and Technology. It is noteworthy that it is their Prime Minister, Yasuhiro Nakasone, who presided over its production. Such is the importance given to science within Japanese government.

This council has had a remarkable impact in influencing the whole fabric of industrial regeneration. In the 25 years since the council was formed it has built up a strategy, first for matching technological change in the United States and Europe, then in planning how the lead could be maintained. Not all is compatible with the British experience or to be welcomed, but one can admire a science policy which is genuine and long-term and where the words "cash limit" and "annual review" of the budget are not used.

Our ministers will find this council's latest and extremely comprehensive report ideologically very disturbing. What the report is saying is that in order to smooth the way for further economic growth, Japan has to invest considerable sums of money on basic research. In fiscal terms, in 1982 Japan spent ¥5.88 (trillion on research, or 2.78 per cent of the national income. The report proposes to raise this ratio to 3.5 per cent of national income in 10 years.

It is true and it has already been detailed in the Cabinet Office's *Annual Review of Government-funded Research and Development (1984)* that Japanese industry does itself fund a significant amount of research. But the Japanese council's report says in as clear language as you can get that if you want basic research, then industry will not provide the funding required. The public expenditure commitment to basic science now proposed is remarkable.

To quote *Nature* (December 6, 1984): "Only West Germany among the industrial nations can claim to be spending a greater percentage of its national income on research, but the lead should pass to Japan within two to three years."

What is also revealing is that while some broad strategy has been set, this has not been too lightly drawn. Altogether 101 areas have been detailed for future research, including life sciences, space science and technology, medicine, energy and food.

Up to the next general election we, through the "Alliance for Science", will be drawing these facts to the attention of many groups, including Members of Parliament, members of the House of Lords, and the political parties. Lack of any broad strategy for research and development is everywhere to be seen. We hope, the Prime Minister will be listening.

John Akker

The author is deputy general secretary of the Association of University Teachers.

Autonomy threat 'from UGC' Pension sex bias tackled

by Peter Aspden

The University Grants Committee's policy towards selective research funding in universities was "clearly interventionist" and threatened the autonomy of individual universities, according to Sir Denys Wilkinson, vice-chancellor of Sussex University.

Sir Kenys said in his annual report that the UGC's intention might be thought to display "too close an interest in the detailed working of individual universities" and was difficult to reconcile with its present role.

"The articulation of a research strategy necessarily entails the making of explicit of domestic judgements as to strengths and, at least by implication, as to weaknesses that may be better left to our normal processes of resource allocation and that may be unhappily divisive if effectively published," he said.

"It is difficult to reconcile the UGC action that is based on an assessment of differential strengths and weaknesses within a university's overall research programme, with the present concept of the dual support system in which it is the job of the UGC to provide the broad base of well-founded laboratories and the job of the research councils and other external bodies to make the differential judgements," Sir Denys added.

He also said that the Government's incessant financial squeeze had led the UGC to abandon its earlier defence of the unit of resource in place of a defence of level funding that itself already had a forlorn look.

He criticized the UGC's argument that small, "weak" departments were wasteful of national resources and that the country would be better served by combining the talent of the less popular subjects in fewer universities overall.

"This argument is attractive but facile; it ignores the vital need of any

university to have proper regard for the range and balance of its academic activities and offerings if it is to continue to merit the appellation of university," he said.

Sir Denys said the UGC approach revealed an "insensitivity to, and a lack of understanding of, the nature of the close-knit fabric out of which universities must by their very nature be constructed."

"We, in the University of Sussex, are particularly vulnerable to this type of attack because of our avowed attachment to interdisciplinarity and, in particular, because of cherished contextual teaching which makes it essential to preserve a broad spectrum of expertise."

He added that universities' response to the UGC plans should be forward looking and constructive rather than passively defensive, so they could benefit from the serious examination of academic structures.

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Pension sex bias tackled

by David Jobbins

Union negotiators have made a significant breakthrough in their campaign to force a sex discrimination bill on main university academics' pension scheme.

Vice chancellors have agreed to changes in the University Superannuation Scheme's rules extending pension entitlement to widowers and to be considered by its management committee.

The management committee met in June and may then decide to hold a consultative ballot of USS members to see if they are prepared to bear the cost of the change, provisionally estimated at about 0.3 per cent of pensionable salary.

The AUT's case was that the current implementing the move to sex equal was significantly less than the cost of continuing. This was a cost shared by the Equal Opportunities Commission, which estimated a cost as low as 0.1 per cent a scheme with a typical male/female distribution.

When AUT members of USS were balloted on the basis of a 0.25 per cent increase which might later be transferred from the supplementary to the USS scheme, 77 per cent was in favour.

Any proposals eventually put into full USS membership will not be retroactive, but will give an entitlement from a specified future date.

As well as opposition from its employers on cost grounds, there is also opposition from within the AUT to proposals that will effectively increase discrimination against single people.

While the Treasury is generally against public sector schemes like the initiative in this area, there are signs that the University Grants Committee, which effectively controls the purse strings of the USS, would actively support the AUT's wish.

The USS has about 60,000 members, up to 15 per cent women. The union believes that costs would be borne not just because of the relatively small number of women, but because of their comparative longevity and their tendency to outlive their husbands.

Points to be decided between the AUT and the vice chancellors are on Government intentions towards the initiative in this area, the extent of the initiative, and the extent of the initiative.

The crucial differences in construction need to be known by a variety of construction workers from electricians, plumbers and surveyors about how to fit boilers to wooden walls and to follow nailing instructions which prevent wood rot.

The local collaborative projects intend to bring together employers with training needs with education institutions with an eye to the national application.

In its first year £1.3 million has been made available for the project through the various participating agencies. Altogether 17 large projects and 70 smaller schemes have started.

Black lecturer claims job discrimination

A polytechnic lecturer claimed racial discrimination against his education authority which he says turned him down for promotion because he is black.

Sukhu Ramoutar, aged 49, took his case to an industrial tribunal when he failed to get the job of head of the business and professional studies department at Teesside Polytechnic.

Mr Ramoutar from Trinidad is a principal lecturer in the department and told a tribunal in Middlesbrough last week his qualifications and experience were superior to the other candidates. He was the only non-white candidate and the polytechnic bosses had sought to prefer a white man for the job, his counsel Mr Martin Mablett said the tribunal.

Mr Mablett is senior legal officer for the Commission for Racial Equality.

But his employers Cleveland County Council claimed he would not have got the job whatever his colour. The polytechnic director Dr Michael Longfield told the tribunal that Mr Ramoutar's qualifications were "lightweight", he only had a pass degree and the outcome would have been the same.

Mr Ramoutar, of Nunthorpe, Middlesbrough joined the polytechnic in 1970 and was appointed to principal lecturer in 1979, the tribunal heard. He was described by the previous head of department Mr Henry Bridger as "an indefatigable worker and as competent as most heads of department at Teesside Polytechnic".

He maintained a close link with industry, sat on the education committee of the chamber of commerce, had written a number of valuable publications and was a student advisor, said Mr Bridger.

The tribunal heard he had been unofficial deputy of the business and professional studies department since 1980 and he complained to County Councillor Maureen Taylor, chair of Cleveland's Equal Opportunities subcommittee after the polytechnic director Dr Longfield told him the post for the headship, for which he had applied in May last year, would be re-advertised and he would not be given a second interview.

Mrs Taylor told the three-day tribunal she met both Dr Longfield and county council leader Sir Maurice Sutherland and Mr Ramoutar was given a second interview after Sir Maurice said it would be in the "interests of good relations" to give him one.

Mrs Taylor added there had been some resistance to the establishment of a county equal opportunities policy from Labour and Tory councillors.

Dr Longfield told the tribunal the business and professional studies department had given him more trouble than the rest of the polytechnic put together and it had lacked leadership. It was the ability to lead that he had been looking for in the man to appoint as head.

Mr Barry Warrington was eventfully appointed as head of the department from outside the polytechnic in September last year. The tribunal was adjourned until May 7 for the county council to bring further witnesses.

Mr Kinnoch contacted the college to say he hoped the students would not be dealt with harshly. Sir Keith's office was also on the phone, to be told that only three of the dozen protesters who greeted Mr Kinnoch were students. He now knows that the demonstrators were part of an anarchist group, upset that its headquarters is threatened by bulldozers pushing through an access route to Sainsbury's.

Not content with ebullient ex-Express Newspapers supremo Jocelyn Stevens as rector, the Royal College of Art has appointed a former lady wrestler as its public relations officer, Henry King, who once won 15 minutes in the ring for charity with British Women's wrestling champion Lolita Loren, is known as Henekken - the PRO who reaches parts other PROs cannot reach.

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This gives students heavy colds, the union says, and destroys their clothing, says the motion from Strathclyde University, cryptically titled "Piles of Action".

The executive is instructed "to recognize the membership are fed up with getting cold bums" and to campaign for underground heating in all town centres of Tory MPs' constituencies, an allowance for a pair of jeans, and special medical centres equipped with blankets, hot soup and Lemip.

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Science park tenants fear for future

by Olga Wojtas
Scottish Correspondent

Glasgow and Strathclyde universities have called on its policy for the West of Scotland Science Park, a joint venture of the three bodies.

The move follows alarm among the science park's tenants over its future. They say they had expected management company to be set up under its then manager, Dr Colin Bond, but the SDA and these plans and recently dismissed Dr Bond at two days' notice.

The agency is believed to have felt that Dr Bond was inciting the tenants to protest over the park's transfer to the SDA's property division, but the tenants maintain this is unjustified.

Mr Jim Craigie, the local Labour MP, has now written to the SDA's chairman, Mr Robin Duthie, and the two university principals saying the tenants feel the last few years of management of the science park is vital, with interdisciplinary support available from the universities.

Professor John Gillespie, of Glasgow University, a member of the science park's advisory committee, said both the universities and the SDA were aware of the disquiet among existing tenants and recognized the need to allay these fears.

The SDA has introduced recent changes in management structure without consultation with Glasgow and Strathclyde, but the two principals had met the SDA's chief executive and the agency was now preparing a document outlining future policy.

But many of the tenants are still unhappy. Dr John Jackson of Strathclyde University's physiology and pharmacology department, who has recently set up a company, said the transfer to the property division and Dr Bond's dismissal was a big worry.

An SDA official said the park was now being handled by the agency's area manager. An agency review last year had led to more positive and dynamic approach.

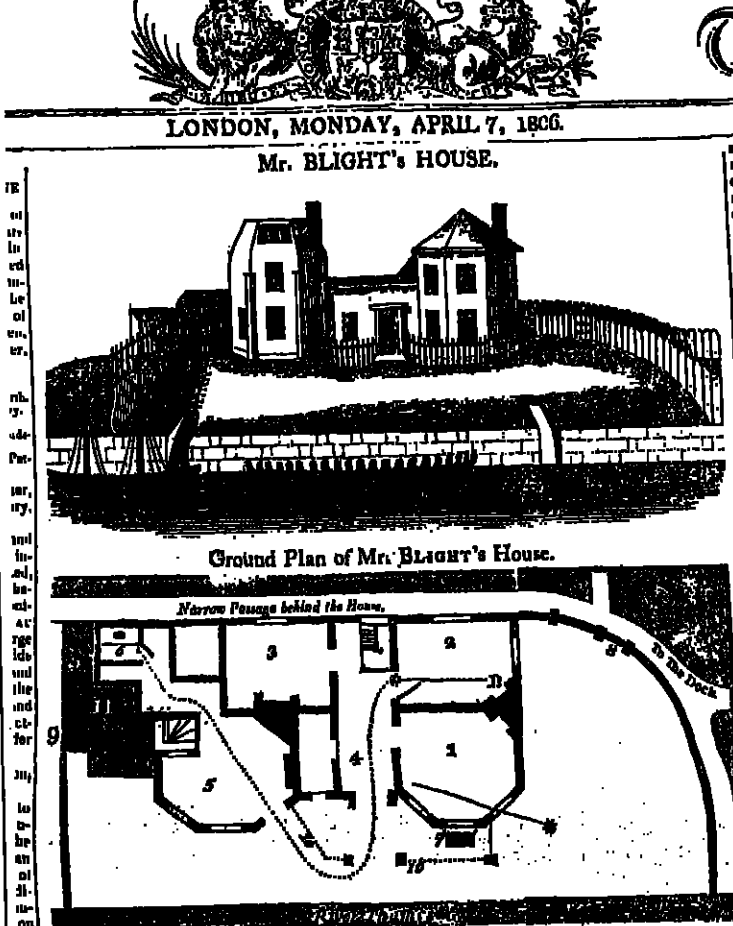
Dr Jackson said: "You need to create an atmosphere which makes academic scientists want to commercialize their research, which then creates a flow of money back into the universities. You just can't handle a science park the way you can an industrial estate."

AUT fights for contract staff Vice-chancellors of four universities are being asked by the Association of University Teachers to drop their use of temporary contracts.

AUT president Dr Ron Emanuel has written to the vice chancellors of Aston, East Anglia, Kent, and University College, Swansea, to secure their support and persuade them to propose a return to academic appointments on a permanent basis to their councils and senates.

The four universities are the only ones, according to the AUT, which are contributing to make extensive use of temporary contracts.

The AUT believes that their use is detrimental to quality of teaching and research, and affords little or no protection to academic freedom. It also believes that the insecurity involved is harmful in trade union terms.



Ground Plan of Mr. Blight's House. The illustration shows a detailed floor plan of the house, with various rooms labeled and a central hall.

Gory details: the first illustration to be published in the *The Times* on April 7, 1806, shows the murderer Mr Blight's house and its route to the scene of the crime. It can be seen along with other artefacts, manuscripts, engravings and paintings at an exhibition "Sign of The Times: the 200th anniversary of the newspaper" which opens next week at the British Library.

UEA sets up business arm

The University of East Anglia has established an Economics Research Centre to attract funding and develop links with local business and industry.

The centre has received £75,000 "pump-priming" funding from the university's overseas students' fee income and from the school of economics and social studies for three years, after which it is expected to be self-financing.

Its function is partly traditional - to act as a base for research assistants and grants from the research councils, government departments and other external commissions. But it also plans to have what its director Dr Stephen Davies calls a business arm, to encourage contract research and information for local industry.

"It is not consultancy in the sense of market research or a profit-making exercise," said Dr Davies. "It is merely to work on projects of interest to local business and of interest to us academically."

The centre will produce an economics newsletter twice a year, for which it hopes to find a sponsor, to be distributed among East Anglian companies and chambers of commerce. The first issue is due in April.

Students to cross more frontiers A new proposal to promote student exchanges between universities or exchanges between universities and industrial firms in different countries, will be made to the European Commission in July as part of a thrust to develop transnational cooperation between universities and industry.

The first announcement came at the weekend from Mr Peter Sutherland, the Irish commissioner newly appointed to responsibility for competition, social affairs, education and training. He was addressing an invited audience of industrialists, educationists and MEPs at the working seminar at Cumberland Lodge, training in new technologies.

At present fewer than 1 per cent of students in member states attended courses in another, he said, far less than 700 years ago in the Middle Ages. He would like to see an Italian or a German student becoming a trainee to

Scientists tempted to socialize

by Jon Turney
Science Correspondent

The Economic and Social Research Council has approved funding for its proposed programme of science studies and science policy research, to start this autumn.

The council received more than 60 proposals following initial publicity for the scheme, designed to strengthen work in science studies with relevance to decisions on research funding. It has now pledged £100,000 a year for three years and invited fresh applications. These will be considered by a sub-committee of the council under Sir Douglas Hague, the chairman.

The new programme will exclude work on research output indicators, a current interest of the Advisory Board for the Research Councils and the Royal Society. The council hopes plans for a policy research consortium, bringing together the ABR, the five research councils and other bodies will produce money from other sources for expanding work on outputs.

The invitation to apply for the science studies programme says projects involving practising scientists would be especially welcome, and that there were disappointingly few initial indications of interest in four areas: peer review, inputs to science, the effects of sociological theory in science policy. The council also says there was a shortage of good ideas from economists, education and information science.

The programme is intended to strengthen the science studies community in the UK, although it will probably only run to four or five projects. It forms part of a general growth in science studies relevant to policy, as well as in the number of people working full-time on policy in government and other agencies.

The latter group will soon be boosted by six new appointments to a policy studies unit which starts operating within the Royal Society from this April, and a bid for three new appointments to the ABR secretariat in the Department of Education and Science. The DES appointments will more than double the existing strength of the ABR's support.

Programme for Research and Development of Information Technology now under way, the commission is ready for a shift in emphasis towards the "human resource dimension" in a programme of education for technology.

But at a time when Europe was lagging far behind Japan in the number of graduate electronic engineers per head of population, Mr Sutherland had a warning for a university world proud of its autonomy and record in pure research, which looked "with some distaste" at the way industrial finance dominated some university faculties in the US and Japan.

Universities needed to recognize that their research could benefit from interchange with industry-based research and that partnership in post-graduate research could help teaching, training activities, and especially re-training, he said.

With Esprit, the European Strategic

ANESTHESIS

Tomato sauce for Sainsbury's

Sir Keith Joseph, never one to let party politics come between him and a principle, has been taking a close interest in the latest "unruly students" episode: the nose-to-nose confrontation between Labour leader Neil Kinnock and a tomato-throwing student at Haringey College.

Mr Kinnock contacted the college to say he hoped the students would not be dealt with harshly. Sir Keith's office was also on the phone, to be told that only three of the dozen protesters who greeted Mr Kinnock were students. He now knows that the demonstrators were part of an anarchist group, upset that its headquarters is threatened by bulldozers pushing through an access route to Sainsbury's.

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Robinson calls for public sector unity

by Felicity Jones

It is vital to maintain the unity of public sector higher and further education when the whole sector is at risk, Mr Eric Robinson, director of Lancashire Polytechnic, told the annual conference of the Polytechnic Association for Continuing Education.

Groups within the sector were too preoccupied with their own immediate problems and not with the wider institutional and political policy issues, he told the conference in Sheffield last week.

"In any system where democracy works people have got to interest themselves in policy issues and it is time the traditional liberal consensus in education returned to thinking about the fundamental issues," he said.

He rejected as false the distinction between advanced and non-advanced work and the maintenance of a pooling system for higher education. "Where is the logic in an 18-year-old from Newcastle packing his bags to take a place in Plymouth?" he asked.

By this time there should be suitable provision in every locality so that the system did not discriminate against women and those who could not leave home.

Further education was kept distinct on age grounds but a higher proportion of students were older than those in higher education institutions. "It is really a class distinction and it is about time somebody raised hell about it."

If polytechnics were given charters on part-time and sub-degree work they would suffer. Portsmouth Polytechnic

had shelved these 10 years ago, he said.

To be serious about continuing education, it had to become mainstream and provide a service for local people who do not want to travel.

There was great danger from the Manpower Services Commission which "pretends to be the saviour but is the rapist of education" driving right across the field and humiliating colleges which have to grub around for money.

Mr Jack Mansell, director of the Further Education Unit, said there was no national commitment to a comprehensive system of continuing education. "This poses problems for those who wish to support any initiative but see their increasing differentiation as acting against the construction of a comprehensive system."

It is a high risk area because it is separated from mainstream vocational education and funding. Non-vocational education in particular is regarded as an optional extra and gets low status in staffing structure and finance.

Existing initiatives like Replan, the local collaborative projects and Open Tech are "ad hoc and temporary" and although there is no lack of exhortation the numbers of adults participating in the UK is still low.

The plethora of funding sources led to adult educators allowing the source of that funding to determine the course provision said Mr Mick Farley, senior adviser at Sheffield local education authority.

This led to serious gaps and duplication and only the local authorities could coordinate it all.

GLC member attacks Brunel court 'bias'

A member of the Brunel University court has criticized its "unrepresentative" composition which leads to a "heavily conservative general outlook".

Mr Gareth Daniel, who is also a member of the Greater London Council for Ealing North, said he was concerned at a recent meeting by the preponderance of professional middle class while males in the court.

In a letter to the vice chancellor, Professor Richard Bishop, Mr Daniel said: "I am aware that the court has limited powers and functions but am concerned none the less at its apparently unrepresentative character."

"Since the university styles itself as serving West London, a diverse and multicultural community, it seems to me there must be a case for conducting a fundamental review of the present composition of the court to make it more genuinely representative than it is at present."

"In particular, I suggest the court needs fewer 'dignitaries' such as lords, mayors of local boroughs, few businessmen and white-collar professionals and fewer middle-aged and elderly white males."

"In their place, I suggest the court should appoint more young people and students, more women, more ethnic minorities, more people with disabilities, more individuals with wider experience of community affairs and more local elected representatives of all political persuasions."

Mr Daniel also attacked the court for refusing to pass two recent motions, opposing education cuts and student loans, and calling for a stop to student work placements in South Africa. Both resolutions had been proposed by the student union.

"After five years in which higher education budgets have been ruthlessly cut back, I am appalled that a group of senior university members were not prepared to support a mildly worded motion of opposition to Government policy," he said.

But the students have called off a threatened month's boycott of the catering services, following a 10 per cent reduction in the prices of basic items such as tea, coffee and sandwiches, although this is being subsidized by an increase in the price of other items such as salads and baked potatoes.

Mr Clark said although the rents for students had ended, the campaign would continue for the university to increase the availability and quality of accommodation.

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Natfhe urges doubling of primary training places

by Patricia Santinelli

The Government was urged this week to heed the advice of its own advisory body on teacher training and double the number of primary training places if it wants to avoid future shortages.

In a plea to Sir Keith Joseph, Secretary of State for Education, the National Association of Teachers in Further and Higher Education points out that the Advisory Committee for the Supply and Education of Teachers' recommendations for a 49 per cent increase in primary training numbers in any case the minimum expansion necessary to maintain quality of training.

Natfhe also warns the House of Commons Select Committee on Primary Education that should Sir Keith respect ACSET's advice even greater support and resources than envisaged by the committee will be needed for updating and retraining existing staff to make up numbers.

Sir Keith's reply to ACSET has been awaited for more than a month. A delay appears to be caused by an agreement between branches of the Department of Education and Science on how to cope with such an expansion without extra resources and without radically cutting back on other teaching courses.

The association also says it is evidence to the select committee that the proportion of primary teachers entering the profession after the Postgraduate Certificate of Education now provides only 36 weeks of training. PGCE increased from 1,305 in 1979 to 1,954 in 1984.

Natfhe stresses that not only 36 weeks inadequate for the training of primary teachers, but that Sir Keith's own views as conveyed in the *Teacher Training Quality* report, a case for a four-year honours BEd containing all the diverse elements to ensure a properly trained teacher.

The committee has written to the Health and Safety Executive asking it to reconsider draft proposals to restrict the use of toxic chemicals and other hazardous substances in the light of the universities' special needs.

It feels the restrictions, which may be appropriate for industry, are drawn too tightly.

In its judgement a clear distinction should be drawn between the needs of workers in industry dealing with a small number of toxic substances often in bulk, over long periods of time, and staff and students who are likely to work with a wide range of substances, usually in very small amounts for short periods.

The committee recommends the future legislation be drafted to acknowledge these important differences.

The committee also says that wider definitions of "hazardous substances" and "exposure" are put forward the cost of enforcing the new rules would be beyond most universities.

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Student protesters face penalty

from D. B. Udalagama

COLOMBO
The Sri Lankan Ministry of Higher Education is expected to decide soon to make payment of scholarship money and bursaries conditional on attendance at lectures, to discourage undergraduates from going on strike.

The proposal will be put to university vice chancellors, who hold acting appointments until President J. R. Jayawardene, who is also Minister for Higher Education, makes appointments under the new University (Amendment) Act.

The proposal involves a "fine" of 5 per cent for each day a scholarship or bursary holder keeps away from lectures. Some 7,000 students, almost half the university population, are estimated to benefit from scholarships or bursaries. The penalty is expected to operate from this month if approved.

Dr Stanley Kappagoda, secretary to the ministry and chairman of the University Grants Commission, said that it was obvious that Parliament would not repeal the amendments. Students should know the difference between a "legitimate" protest that was likely to be effective and a "wild" protest that would not bring results, he said.

But undergraduates do not seem to have given up the struggle, though there is an uneasy calm at the universities just now. They have had assurance of support for the continuation of the struggle from opposition political parties and a good number of trade unions.

Even after the Bill was passed, there were demonstrations, one in particular by undergraduate Buddhist monks who staged a protest on a university rooftop.

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Buddhist monks stage rooftop demo

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overseas news

Bio-tech institute gets top backing

by Thomas Land

Four Nobel prizewinners are among the dozen top scientists who have agreed to help to steer the new International Institute for Genetic Engineering and Biotechnology into operational status.

Located in two places - New Delhi and Trieste - the centre is the first such institute intended specifically to serve the needs of the developing countries. Provisional research facilities are to open very soon to launch the work of both units. Permanent facilities may take perhaps another year to complete. The institute's development programme is based on the assumption that it will take three years to bring the centre to full operational capacity. By the fourth year, more than 30 scientists as well as 20 postdoctoral fellows and 30 technicians are expected to be engaged at each unit.

The New Delhi unit will concentrate research on human and animal health and agriculture. The Trieste unit will be concerned with energy, industrial microbiology and protein engineering. The Vienna-based United Nations Industrial Development Organization has earmarked a \$40.7 million budget for the institute's initial five years of development.

A UNIDO specialist explained that the bioconversion of biomass, one of the proposed elements of the work programme for the Trieste unit, could lead to breakthroughs in turning fodder waste from plants into fodder, sugars, alcohol fuels and synthetic polymers on an economical basis.

Other areas to be covered at Trieste include the study of microorganisms that could help to refine crude oil cheaply, break up oil slicks and utilize petroleum solids in dried oil wells. Industrial-scale fermentation and protein engineering would be also part of the work programme there.

Tropical diseases will be an important focus of work at the New Delhi unit. Its animal health programme covers growth, development and reproduction as well as vaccines and immunology. Its agricultural research programme includes such areas as biological nitrogen fixation and soil microbiology, stress tolerance in plants and improvement of plants for nutrition content.

A total of 88 trainees are expected to complete their 24-month courses at both units by the end of the first five years. Common to both sites will be scaling-up facilities in the form of fermentors.

A complete pilot plant is to be erected in Trieste. A fermentor of at least 100 litre capacity will be built at New Delhi for producing vaccines and organisms for testing. A gene bank is planned for at least one of the two sites.

The institute will create a global focus for safety considerations in genetic engineering research. UNIDO and the World Health Organization have already begun a joint study on environmental and health hazards involved in industrial biotechnology. A careful set of safety guidelines and regulations governing research at the institute is also under consideration.

The panel includes Nobel prizewinners Arthur Kornberg, Joshua Lederberg and Jonas Salk of the United States and Luis Pasteur of Argentina. Other members are leading scientists from the Stanford Medical School, the Canadian National Research Council, the International Rice Research Institute and Strasbourg, Illinois, Chicago, California and Cornell universities.

The group has been formed to stimulate interest in the global scientific community and to advise on the new institute. It will guide the planning of the permanent facilities of the institute and its research and development programme. Eventually, the group will help with the recruitment of a director and fundraising activities for additional scientific work.

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College recruits seduced by uniform

from William Norris

WASHINGTON
High school students in America who saw their chances of going on to college disappearing in President Reagan's budget cuts have been learning this week that they may get a university education after all.

There is only one snag - they will have to join the Army first.

In a series of high-powered television commercials, young people are being told that they can get up to \$25,200 in federal college aid if they will only sign on for four years of military service. A three-year hitch will earn them \$2,800, falling to 17,000 if they serve for only two years.

The Army is also offering a package which allows the student to have two years at university, two in uniform and then another two years of study.

The offer is being made at a time when the Reagan administration is proposing cuts in federal student aid from a possible maximum of \$11,000 a year at the present time to a maximum of \$4,000 from all sources.

Students whose family income is more than \$25,000 would be ineligible for any grants and those with \$32,500 or more would not qualify for guaranteed student loans. These cuts, which have come under heavy fire from the academic community, have yet to be ratified by Congress.

No such income restrictions appear to apply to the Army offer. As in all other matters of military expenditure under President Reagan, the recruitment scheme has been given immunity from the budget reductions aimed at every other sector of American life.

The Army is spending \$8 million on its advertising campaign, promoting it in prime-time slots on the evening television news programmes of CBS, NBC and ABC. The advertisements coincide with the military recruitment drive on the radio and in the newspapers.

For all the publicity, the controversy over student aid cuts, the scheme is not as new and improved as the advertising would make it seem. Under the veterans' education and employment assistance programme, which was initiated back in 1977, qualified enlistees could get up to \$26,400 in college benefits - \$1,200 more than under the offer now being promoted. That programme expires in July, when the new GI Bill comes into effect.

The difference, of course, is that in the past students had a very good chance of getting just as much assistance without the mild inconvenience of joining up. For many it must seem that the president is making them an offer they cannot refuse.

In order to qualify, they must have a high school diploma or its equivalent, score 50 or better on the Armed Forces Qualification Test and enlist in what the Army calls a "critical skill". This ranges from infantryman or paratrooper to missile crew member or combat engineer, metal worker, or "food service specialist" - which presumably means cook.

The offer is limited to the army. Prospective students who want to enlist in the Navy, Air Force or Marines, will find they only get \$10,800 in college aid and have to serve four years to get it.

But the issue has been complicated by the pressure on places in universities and colleges of advanced education for Australian students.

Mr Hayden has made it clear that both he and Mr Hawke are concerned not to let Malaysian objections to the proposals on overseas students damage bilateral relations.

Malaysia's deputy foreign minister, Mr Abdul Kadir, said Mr Hayden had been asked to relay to Canberra an official Malaysian request that there be no cuts in the intake of Malaysians to Australian educational institutions and that if possible the quota be enlarged.

There have been recent calls from academic groups in Australia to put a full-cost charge on foreign students. At present, the fees paid by overseas students cover barely a third of the cost. If students paid full fees it would generate an estimated A\$130 million, which, say critics of the present sys-

Kenyans 'suffering' in Peking

from Wachira Kigotho

NAIROBI
The Kenyan government has castigated its "Oliver Twist" students currently studying in the Peoples Republic of China.

The students have complained bitterly of their limited grants, which they say are insufficient for their studying and living conditions in China.

Channelling their grievances through a Nairobi popular magazine, *The Weekly Review*, several students at Peking Language Institute complained that the monthly allowance of 120 yuan (\$40) was inadequate to buy reference books, stationery and food. They said that the cost of living in China was rising rapidly while their allowances remained static.

The students appealed for presidential intervention for what they described as their economic plight in China. They added that most of them were unable to buy the winter clothing that they needed urgently.

But officials in the Ministry of Education, Science and Technology and the Chinese Embassy in Nairobi denied the students' allegations. The embassy said that foreign students in China received better treatment in terms of allowances than were above those of average factory workers.

The director of higher and technical education in Kenya, Mr David Mbihi, said that the government had no extra funds to top up the students' scholarship awards. To do so would be tantamount to discrediting the donor country, advised parents who felt that the stipend was too small to provide more for their sons and daughters.

China offers limited scholarships to Kenyans, mostly in linguistics and gymnastics. Despite their limited number, these scholarships are less competitive, as graduates from China find it less easy to get into the civil service or the private sector than their counterparts from western Europe, United States and Indian universities.

The grievances of the students in China will seem to be being shelved by government officials.

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Chinese called up

by Geoffrey Parkin

Military training will be introduced in a select number of China's universities, colleges and schools from this September.

The new move was outlined in a circular to all educational institutions issued jointly by the ministries of education, labour, personnel and finance and the Peoples Liberation Army.

The circular did not give details of the number of institutions and students involved, but indicated that institutions with the necessary facilities and equipment were likely to be selected.

Students would be selected in accordance with specific provisions of the country's army service law. This would mean compulsory military training for many first and second year students in colleges and universities.

The move is of significance, and must be cause for some concern among students and parents. It coincides with a marked military build-up and intensification of clashes along the Sino-Vietnamese border in recent weeks.

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Glasgow promises rent freeze in wake of strike

by Olga Wojtas

Scottish Correspondent

Glasgow University students have called off a threatened month's boycott of the catering services, following a 10 per cent reduction in the prices of basic items such as tea, coffee and sandwiches, although this is being subsidized by an increase in the price of other items such as salads and baked potatoes.

While the court debated the issue, several hundred students outside chanted and set off fireworks, as they had done on various occasions during the last 10 days of the strike.

Mr Malcolm Clark, president of the students' representative council, said the students would now have to try to mend relations with the university. But he added: "I feel that maybe all the shouting and the rioting have been worthwhile."

But the university's accommodation officer, Mr Stephen Johnson said he thought the same result would have been reached by normal negotiation.

As well as the freeze



Assessing the assessors

Since September 1983 for the universities, and April 1984 for the public sector, two inquiries, separate but complementary, have been examining the maintenance and improvement of academic standards.

Both the Reynolds and the Lindop committees were set up because of concern expressed by Sir Keith Joseph, Secretary of State for Education and

Science. **NGAIO CREQUER** and **KAREN GOLD** look at the background, what they have done so far and what issues remain to be decided.

Committee chairman Professor Philip Reynolds and Sir Norman Lindop are pictured left and right.

Professor Maurice Craft looks at the issues on page 16.



Controlling university quality

The Reynolds committee was set up because Sir Keith Joseph, Secretary of State for Education and Science asked the universities to look at how they maintained standards.

In September, 1983 Sir Keith wrote to the UGC giving guidance on a number of questions relating to the nature and long-term development of the university system. The UGC had asked him for his views in the hope that a strategy for higher education could be developed. The UGC's "28 questions" grew out of the correspondence.

In his letter of September 1 Sir Keith pointed out the abundance of thinking on higher education - including the Leverhulme study - which had been published. "It is particularly important that the nature of the committee's consultations should require universities to undertake a realistic internal assessment of their own potential for future development and of the means by which standards are to be main-

tained and enhanced."

Under Lord Flowers, then chairman, the CVCP needed no second bidding and Reynolds was established to study universities' methods and procedures for maintaining and monitoring academic quality and standards. The remit includes teaching and research at undergraduate and postgraduate level.

The committee has worked against a background of increasing student, mainly postgraduate, dissatisfaction, with university procedures for dealing with complaints, and the establishment of a pressure group, RULES, Reform university law and educational standards, which has served as a focal point for protesters.

Much of Reynolds' work so far has been descriptive, although the codes of practice, described below, may provoke changes at some universities.

The committee intends to produce two more reports, on postgraduate

appeals and on internal procedures for assessing courses. The first will address itself to the most controversial question, whether students or researchers should be able to appeal against judgements on academic rather than mere procedural grounds.

It is from this murky area that many to the disputes have come that have ended in protracted cases before the Privy Council. The question arises of who assesses the assessor.

This paper is likely to be set before the CVCP in June, and the next one at an early autumn meeting. Professor Reynolds then intends to write an "overview" report and all the papers will have been revised, to take account of universities' comments, by the end of the year.

The whole package, Reynolds says, reports, will finally be ready for Government and public consumption in February 1986.

Ultimate power

External involvement in the maintenance and monitoring of academic standards

This paper, produced in November 1984, described the range of existing practices and proposed minor extensions of some of these. It said that while external involvement was important and showed legitimate interest by the community and government, ultimate control for maintaining standards must lie with universities themselves.

It mentions four areas in particular where there are outside checks: Accreditation by professional external bodies - where professional bodies give students exemption from part of all of their own exams or professional requirements. In some cases accreditation is mandatory.

Accreditation involves detailed review of curricula and assessment of the suitability of the training to fit graduates to professional practice. The process is often helpful and productive but if applied rigidly it can inhibit innovation, says the paper.

University Grants Committee subcommittees - these are "repositories of expertise" because of the quality of membership, access to statistical material and their discussions with academics when they visit universities.

They have a two-way advisory role, to the UGC about the quality of departments' work, and to departments with suggestions about developments or deficiencies.

Peer review and research - funds from research councils, government departments, charitable foundations or industry are granted only after rigorous scrutiny.

Subject associations and learned societies - most staff have contact with others in their discipline. The influence of this network of external relationships on the transmission of ideas, stimulus to change and recognition of standards, is difficult to measure but certainly profound.

The paper notes that some universities have specialist advisory committees for particular subjects, especially in vocational or professional subjects. It suggests that these could be extended and would complement the work of external examiners.

Finally, standards are affected most by the quality of staff. The paper suggests universities should review their procedures to consider when there should be external involvement.

Some valid points for poly and college degree

It must be strict, it must be acceptable, and it must be cheap. That was the underlying message Sir Keith Joseph gave the Lindop committee in asking for a new system of degree validation.

It is impossible of course. Any strict system - one that makes sure all degrees are identical in standards, checks on student entry qualifications and course content for Marxist bias - cannot be cheap. Any acceptable system - acceptable to the growing pressures from mature institutions for less bureaucracy and more freedom - must involve easing the restrictions on ambitious institutions, not increasing them.

So from the start the committee was bound to come up with several systems, not just one. In fact within a month of being established it has whittled down its remit to deal with just those two areas of rigour and freedom: what is the best way of validating degrees, and how do you differentiate between institutions, it asked.

But in its report there are likely to be answers to most if not all the nine points Sir Keith raised in setting up the committee, and which its members have discussed in their evidence sessions and visits.

The issues are: Standards: how much of the responsibility for sustaining academic standards is contained in validation, and how does validation of a proposed course relate to it once it is running? Validating the validators: who makes sure the arrangements for validation

are working properly and the validators are being rigorous enough? Costs: Is it worth the time and money involved?

Shared responsibility: Who is responsible for making sure a degree is really worth it? The institution, external examiners and validators are all involved. Who ensures it is "designed, balanced and fair way"?

Proper distinctions: in which institutions can there be confidence that the position, hoping for a parliamentary debate. At the same time, Professor O'Riordan and two colleagues at East Anglia will be working on their own appraisal - an inquiry into the inquiry.

The Economic and Social Research Council-funded study of the Sizewell exercise will feed into the separate debate on how such inquiries work and how they have evolved since the earlier Windscale inquiry into nuclear fuel reprocessing, a marathon in its time but at 100 days mere limbering-up compared with Sizewell.

Tim O'Riordan and his collaborators, Dr Ray Kemp, a political scientist, and Michael Purdie, a planning lawyer, are concerned with the process of Sizewell, not the decision. At least, neither Kemp or O'Riordan are keen to be drawn on their own views about the merits of pressurized water nuclear reactors versus energy conservation, for example. But they will be watching keenly to see how Layfield frames his report. "Our findings depend critically on the inspector's interpretation," says O'Riordan.

Even with Layfield's verdict to hand, though, and a resolution not to get bogged down in detailed arguments about uranium mining in Namibia or the integrity of nuclear reactor pressure vessels, appraising the inquiry's 340 days of testimony and 5,500 documents is a formidable undertaking. The East Anglia team had to apply for an extension of their grant as the inquiry dragged on and Kemp alone has been to the hearing over 100 times.

but also of the work of some validating universities, and of BTEC.

It will advise a division between institutions, probably into three tiers, with the top tier receiving as much freedom as universities within the restrictions of a more developed external examiner system and the visits of HMTs. It will not recommend changes but there will be legislation needed to allow those institutions to grant their own degrees.

Other institutions will have greater freedom than now from CNAAs and visits, but will still award CNAAs and degrees by accreditation, granted through quinquennial review by lower groups of institutions by CNAAs.

More closely monitored by CNAAs, even here the committee will recommend changes to reduce bureaucracy and make the council concentrate more on teaching and what actually happens in departments than on institutional structures.

The committee is expected to move, once more, after which its report will go to Sir Keith Joseph, who has expected to publish it before the summer. If it approves its recommendations will be included in the Government's Green Paper on higher education, also due in the summer. Meanwhile the CNAAs in considering its own proposals - a two-tier Mode A/Mode B system for freer validation.

Six months later, in April 1984, the Lindop inquiry was announced. It would cover CNAAs degrees and those validated in colleges of higher education by nearby universities - a surprisingly large number. It would also look at sub-degree work covered by the Business and Technician Education Council. But no one doubted that the CNAAs would be the main focus.

How CNAAs lost Joseph's sympathy

The title Council for National Academic Awards has an obscure and stage for a political scene. But two brought the council into a highly political arena. One was its refusal to take on validation of the University of Buckingham; the other was its stop validating social science degrees at the Polytechnic of North London.

Both decisions lost the sympathy of Sir Keith Joseph, secretary of state for education and science. After HM

autumn of 1983 on North London's sociology and applied social studies degrees, Sir Keith announced he was considering an inquiry into all public sector standards.

The long-forgotten civil servant who drafted Section 2 of the Electric Lighting Act 1909 would have been astonished at the goings on in the Snape Maltings concert hall in Suffolk 80 years later.

Even to us, it is astonishing that the public inquiry into a decision to build a second nuclear power station at nearby Sizewell lasted two years and three months. And the fact that the ultimate decision on Sizewell B will be governed by a reading of this Act underlines the need to adapt old institutions to deal with new and ever more complex decisions.

Nuclear power places the greatest strain on existing British decision-making, but Professor Tim O'Riordan of the University of East Anglia argues it is only one of a series of issues which create similar problems, from coal-mining in the Vale of Belvoir to airport siting. More and more the problem for government is not reaching the "right decision" but making a decision that will be accepted - the issue is not necessity but legitimacy.

Sizewell is only the latest, and largest, attempt to deal with this and the end of the inquiry proper last week is only a stage in the process.

Between now and the end of this year, when Sir Frank Layfield will produce his inquiry report for ministers, the Central Electricity Generating Board and any objectors not too exhausted to care will be jockeying for position, hoping for a parliamentary debate. At the same time, Professor O'Riordan and two colleagues at East Anglia will be working on their own appraisal - an inquiry into the inquiry.

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Protesters to Sizewell's second nuclear power station maintained opposition throughout the hearing

Analysis of a power struggle

Jon Turney on an appraisal of the Sizewell inquiry

The complexity is as daunting as the sheer scale. Ray Kemp points out that the nature of the arguments they are looking at is itself a function of the inquiry. "For instance, if the CEBG are making a very complex argument about negative net costs, we have to understand the importance of the different variables in the economic argument, and the way in which the inquiry investigated those variables."

The ESRC project does have three touchstones to guide the investigators through the inquiry maze. They were conveniently supplied by the Government's repeated commitment to make the inquiry "full, fair and thorough". This legalistic equivalent of "liberty, equality and fraternity" is the same as the more evocative slogan in one way, the three elements conflict.

It will be hard to fault a sixteen million word inquiry on fullness or thoroughness. As Lord Silsoe, the CEBG's lead counsel put it in his closing submission: "The opportunity was there to pursue almost any point under the sun which anyone wanted to hand, though, and a resolution not to get bogged down in detailed arguments about uranium mining in Namibia or the integrity of nuclear reactor pressure vessels, appraising the inquiry's 340 days of testimony and 5,500 documents is a formidable undertaking. The East Anglia team had to apply for an extension of their grant as the inquiry dragged on and Kemp alone has been to the hearing over 100 times.

but also of the work of some validating universities, and of BTEC.

It will advise a division between institutions, probably into three tiers, with the top tier receiving as much freedom as universities within the restrictions of a more developed external examiner system and the visits of HMTs. It will not recommend changes but there will be legislation needed to allow those institutions to grant their own degrees.

Other institutions will have greater freedom than now from CNAAs and visits, but will still award CNAAs and degrees by accreditation, granted through quinquennial review by lower groups of institutions by CNAAs.

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Some of the novel features of Sizewell are also designed to make the proceedings fairer. Important innovations are the adoption of an inquisitorial style, with Layfield calling witnesses on his own initiative, and the crucial decision to appoint a counsel to the inquiry.

Ray Kemp comes back again and again to the role played by the inquiry counsel, Mr Henry Brooke, in bringing out new information, and diluting the adversarial flavour of the proceedings by cross-examining on behalf of the inquiry itself. Critics say that the doggedness of Brooke's examination made the inquiry much longer.

But the imbalance between the CEBG and the objectors has still been so great that fairness is in question, the East Anglia researchers believe. The Government decided early there would be no public funding for opponents of the proposal, arguing that the CEBG and the Nuclear Installations Inspectorate represented the public interest.

Although there has been extensive support in kind from the CEBG, which is paying for the inquiry itself and the inquiry counsel, and providing free transcripts, the objectors themselves only spent a few hundred thousand pounds compared to the £5-20 million estimated as the CEBG's costs.

To make life more difficult for the

objectors, the CEBG's case has changed during the inquiry. This was not surprising when the proceedings were so long, and the questions so complex, particularly as the complete safety case for the Nuclear Installations Inspectorate was not ready when the inquiry started. But major new inputs from detailed models of economic projection or studies of radioactive waste products in the environment have been extremely difficult for opponents to unpack.

In spite of this, Kemp and O'Riordan are generally defenders of the inquiry, both as a worthwhile investment and a stage on the way to making a better attempt at a fair discussion next time. After interviewing all the key actors except Layfield, who comes later, they have found that they tend to take the "inquiry line", explaining how it looks to the many different groups involved.

They will make recommendations for improvements in the conduct of future big inquiries, which O'Riordan believes are bound to come. Likely candidates could include a future nuclear reactor proposal, radioactive waste disposal and the possible Severn Barrage tidal power project. Outside energy-related issues, the Channel Tunnel would be an investment of a similar scale with huge planning implications.

Each of these would demand a different format, but present indications are that the Government may have different ideas about the evolution of such inquiries from the academics. For example, future nuclear power station inquiries are likely to be site-specific, thus excluding many of the economic and policy questions raised at Sizewell.

The Government's views, not necessarily all pointing the same way, are a primary concern of the East Anglia group in their other main aim, to examine the wider political context of the inquiry. Sizewell, of all inquiries, has been special because it turns on a decision which will lead directly to further large investments in nuclear power, and will narrow the scope for other investments in energy supply.

This, of course, is why the proposal is so controversial. And it is the reason for examining the political context closely, from the miners' strike to international relations.

The investigatory style adopted in Layfield's inquiry has shed new light on a vast range of issues in energy policy and beyond. Yet the inquiry remains purely advisory. This raises the possibility that innovations in the inquiry procedure, designed to enhance the "internal legitimacy" of the hearings, will raise unrealistic expectations about the Government's treatment of Layfield's report - affecting the "external legitimacy" of the whole decision apparatus.

Of course, much will depend on exactly what Layfield says. In the meantime, all the parties will count the cost of the inquiry in different ways.

For the CEBG, it has meant a two-year delay in starting to build the reactor, if it goes ahead - though the ESRC researchers argue this is compensated by the large sums saved through improvements in design and licensing procedures stemming from the inquiry. For the Government, it will have been worthwhile if the inquiry can be used to trigger a new light for construction without raising further protests. When the stakes are so high, the few tens of thousands of pounds invested in the East Anglia project seem a positive bargain aside the full inquiry costs and the billions of pounds projected for the total nuclear programme.

The researchers have as good a chance as anyone of standing slightly on one side and analysing the entire process. With the Ecology Party already speaking of considering non-violent civil disobedience if the verdict goes in favour of Sizewell, the final report from East Anglia will be widely read when it appears in the wake of Layfield's own analysis. As Dr Brian Wynne of Lancaster University wrote in his earlier study of the Windscale inquiry: "At stake in the nuclear issue is not just the fate of specific governments, but governability as such."

Dr Azar's judgement, however, there is still a long way to go. He sees formal negotiations between Britain and Argentina as being far in the future, and has recommended against their early commencement. He has suggested that both heads of government, "but informal discussions are badly needed," he said. "Informal discussions have an educational role as well as a political role. Much can be developed through these mechanisms to reduce uncertainty and anxiety."

At this point we had the beginning of a glimmer of something which others may have talked about, but we were able to put it together with the two sides confronting each other.

Dr Azar estimates that five or six informal meetings of this kind may be necessary before negotiations proper can start, with delegations of increasing status each time. But he is concerned that though President Alfonsín is showing a clear interest in what is going on in Maryland, there is no sign of a similar reaction from Mrs Thatcher.

He regrets this the more because, though Lebanese by birth and a strictly impartial chairman at the meetings, he is an anglophile at heart. He also has a more permanent connection with England than he would wish: while on holiday at a farm in Kent last year, Dr Azar cut off his big toe while mowing the lawn.

"Some people leave their hearts in countries," he remarked, "I left my big toe." Dr Edward Azar is a man with a sense of humour. In his present, self-imposed task, he needs to be

imposed task, he needs to be

imposed task, he needs to be

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Bringing outsiders inside

The external examiner system for first degree and taught master's courses

The first paper produced by Reynolds, in April 1984, was a code of practice on the external examiner system. This area was chosen because of the critical role of the system in ensuring comparability of standards in the universities, and the fair assessment and classification of students.

It should be able to participate in assessment procedures for the award of degrees, arbitrate on problem cases, and comment on course content, balance and structure of degree schemes, and on assessment procedures.

No degree should be awarded without participation by at least one external examiner who should be a full member of the examiners' board.

Externals should be normally, but not exclusively, at professional level, and no individual should hold more than two examinations at first degree level, at the same time.

An external should not be appointed from a university department where a

member of the inviting department is serving as an examiner. There should be a lapse of at least three years before former members of staff are invited to become externals.

Externals should be present at all examiners' meetings where significant decisions are taken. They should approve all draft examination papers, and may in some cases set questions or complete papers.

Examination scripts. Where it is agreed that the department should send a selection, the principles guiding selection should be agreed in advance. An external should have the right to access to any work that contributes to the assessment.

They must be "particularly influential" in any disagreement over a mark. Externals should be encouraged to comment on assessment procedures and in some subjects participation is essential.

Externals should always provide a written report at the end of their term of office, which might be copied to an incoming external examiner.

Postgraduate training and research

This proposed, in January 1985, a code of practice covering admission for research degrees, choice of research topic, supervision and final examination.

Admission: Account should be taken of whether the candidate is properly qualified for the work, whether the programme is capable to be studied at the necessary depth, whether it can be completed in time, whether resources and supervision are available.

Choice of research topic. Should be made in consultation between student and supervisor, though in many sciences, social science and engineering fields it may be determined by research in progress or by a funding body.

Supervision. There should be a statement governing the responsibilities and duties of supervisor and student to establish clear and mutual expectations.

The supervisor's responsibilities would include guidance on the nature and standard of the research expected, planning the programme and attendance at classes, maintaining contact and being accessible for advice, giving detailed advice on completion of work, informing the student of inadequate progress.

The student should take the initiative in raising problems, provide a brief annual report, and decide when to submit.

There should be procedures allowing students to say their work is not proceeding satisfactorily for reasons beyond their control, and for changing supervisors.

Final examination. The supervisor should be the internal examiner only in exceptional circumstances. There should always be at least two examiners, one of them external.

THE REYNOLDS COMMITTEE

Chairman: Professor Philip Reynolds, vice-chancellor, University of Lancaster. Members: Professor Roger Bilo-Stoyke, department of theoretical physics, University of Sussex; Mr Hubert Church, former registrar, University of Liverpool; Professor Don Freedwater, department of chemistry, University of Loughborough; Dr John Horlock, vice-chancellor, Open University; Dr David Ingram, vice-chancellor, University of York; Mr Kenneth Kitchen, registrar, University of Manchester; Sir James Lighthill, professor, University College London; Professor Michael, principal, University of Aberdeen; Professor Norman Kitchen, vice-chancellor, University of York; Professor Gordon Rogers, department of law, University of Leeds; Professor Geoffrey Sims, vice-chancellor, University of Sheffield; Mr Keith Thomas, reader in modern history, St John's College, Oxford.

THE LINDOP COMMITTEE

Chairman: Sir Norman Lindop, former director of Hatfield Polytechnic, principal of the British School of Osteopathy; members: Dr Joseph Dunnington, principal of the British School of Osteopathy; Edinburgh Lady Waseley, Minister of Clifton College; former principal of Nipper College; Dr Joseph Dunnington, principal of the British School of Osteopathy; Edinburgh Lady Waseley, Minister of Clifton College; former principal of Nipper College; Dr Joseph Dunnington, principal of the British School of Osteopathy; Edinburgh Lady Waseley, Minister of Clifton College; former principal of Nipper College.

Making sense of everyday lives

The Institute of Community Studies was formally established as a charitable trust in 1953. It began operations the following year when Peter Townsend and I joined Michael Young in a single room in Oxford House, a Bethnal Green settlement. Within six months we moved to what we eventually bought as a permanent base, part of a Queen Anne house in Victoria Square, where Peter Marris joined us to complete the quartet of founder members.

Both Michael and I had been selected by Young for the research he had begun in 1951 into the effects of rehousing on working class family and community life. East London was an obvious location and Bethnal Green (then a separate borough) was chosen partly for its compactness and partly because Ruth Glass and James Robb had already done research in the area.

Our initial motive was to influence "policy". Both Young and I had previously worked at Transport House, in the research department of the Labour Party where our main concern had been policy for the 1950 and 1951 general elections. We had both become somewhat disillusioned about the extent of progress towards socialism that could be made even by a determined government and we thought, innocently, that the performance would be better if the policy-makers were better informed about the needs of their constituents. We believed, perhaps arrogantly, that even working class Labour politicians suffered a kind of structural blindness which prevented them from seeing their working class supporters when they got to Whitehall or to the Town Hall. Our aim was to find out - and communicate to others - more about the lives, needs and aspirations of working-class people, and that seemed to require methods of research and styles of presentation different from those commonly used by sociologists, academic sociologists in particular.

Empirical sociology usually falls into one or two distinct types: the statistical study of the mass, or the qualitative study of the individual. We wanted to achieve some combination which would get a sense of what daily life was like and what mattered to people.

Our research enquiries were bound to be local, the "community studies" of the Institute's title. Though each piece of research concentrated on a particular aspect of life - housing, old age, widowhood, mental illness - we always

Peter Willmott argues that the case for community studies is stronger than ever before

tried to learn enough about the totality of people's lives and concerns, about the other residents, about the district and its local institutions, to be able to set the main themes in a wider context. A close knowledge of the locality enables the researcher to make better sense of the detailed information gathered about the daily and weekly round and offers more intelligible information about the interaction of the state and its citizens.

An obvious limitation is that the research tells only about one place; it is difficult to know how generalizable the findings are, though our work in east London did later provide the matrix for a similar study in Lagos. Also most people belong to social and professional networks which extend far beyond the locality in which they live.

The institute later moved away from this distinctive approach, and this now seems a matter for regret. The move coincided with a growing neglect of the method on the part of other researchers; since the mid-1960s, there have been few British studies offering any sense of people's daily lives and aspirations. By the later 1960s the generally confident mood of the post-war years had begun to crumble, particularly among intellectuals and idealistic students. The new mood was more radical, often Marxist, and community studies were criticized for treating problems in a fragmentary, piecemeal way.

In the early days, our concern to get a detail of people's lives was reflected not only in the local approach but also in the kinds of sample drawn and interviews carried out. Where a group was easily identified - parents with dependent children, for instance - we used a team of assistants to interview a large sample, collecting factual information with brief, largely pre-



Working-class families in Bethnal Green in 1960

defined schedules; that statistical data was supplemented by about 50 semi-structured intensive interviews with willing respondents. Where the sample was too specialized to recruit in that way we selected only one or two hundred.

The purpose was to create two different sets of material to be drawn upon in a final report, one capable of statistical analysis, the other providing examples of human experience and comment. It can be argued - as Jennifer Platt did - that it was illegitimate to combine the two in this way, that the combination turned two individually innocuous elements into a dangerous blend.

We were also accused of drawing inferences from the intensive interviews which were not supported statistically. Part of the answer was that we used the survey statistics to provide the constraints within which the case studies were interpreted. We drew no conclusion from the qualitative material which was in conflict with the quantitative evidence. Given the lack of certainty endemic to social research, I still believe we were right to use the mixed method though academic readers remained suspicious of what they took to be sleight of hand.

Our search for jargon-free readability was connected to the interest in policy. We looked for a direct impact

through policy-makers and also for an indirect, through a wider constituency which would include editors, journalists and opinion-formers as well as a larger public readership.

We quickly saw that our early view of the route through research, report and on to actual policy change was naive. "Policy recommendations" could seldom be in a neatly-packaged form, requiring a ministerial decision, a new circular to local authorities, or a change in statute.

Although we continued to make detailed recommendations where we could, we began to see that research could often be more useful to policy for the greater understanding it could offer of fundamental issues of family and community life. Studies which were not directed to the detail of policies but which were descriptive and analytical could be of long-term value to policy, because they might help to change public and official perceptions. Our findings had long-term implications for the thrust of policy rather than suggesting detailed remedies.

The Institute clearly started outside the mainstream of academic sociology in Britain, and remained so. None of us belonged to that world. In our previous work we had been more concerned with political action than with the academy.

It was obvious why the unit was not

established inside a university. Academics would have judged it as unrespectable, if not downright unrespectable, if it had been seen as work that could have been done by academic setting in the 1950s.

It is in any case clear that we were different from those of academic science. We were committed to understanding social problems rather than to informing a generation of sociologists. We were not quite as atheoretical as critics suggested, we did regard "theory" with little confidence or enthusiasm. We were not much interested in comprehensive theoretical statements but rather "middle range" theories.

In the 1950s and 1960s in British academic sociology still showed an insecurity. As a newly established academic discipline, struggling for recognition, it was preoccupied with desire to show that like other sciences it had a common body of theory, that it was intellectually autonomous, scientific, distinct from psychology, anthropology, and that its contribution to knowledge would be fundamental, not just useful - all the characteristics of natural science, the stick sociology adopted to give its credibility. Sociologists saw their subject as something exotic, a specialized body of knowledge accessible to initiates.

From that point of view, the unit was a threat. From an academic point of view, we undermined the materials sociology was trying to create. None of this endeared us.

Yet the case for community studies seems today stronger than it was years ago. Household structures are now more diverse - more one-parent families, more young single people living away from their parents, more openly homosexual couples, more "communes". Ethnic minority communities are more numerous and more diverse. There has also been a development of "community" in quite different sense from ours, expressed in heightened neighbourhood and self-consciousness and in a politics of community groups and campaigns.

What is not clear is the relationship between all this activity in the community and what happens in people's daily lives. These are the issues that the Institute of Community Studies pioneered in the 1950s and 1960s.

The author is a senior fellow at the Policy Studies Institute and a professor of social policy and education at the London School of Economics. This article represents a condensed version of chapter 8 of *Essays on the history of British sociological research*, edited by Martin Dunne and published by Cambridge University Press.

Prescribed or proscribed...

J. M. Newton and B. W. Burt look at the Government's drugs blacklist and the reasons for its existence

The Secretary of State for Social Services, Mr Norman Fowler, has told Parliament that the concept of obtaining value for money applies to all areas of the health service including the drug bill. Mrs Thatcher has agreed explaining that all that was being done was what any properly run enterprise should do: look to its expenditure. The concept is now about £1,400 million a year compared with £250 million ten years ago. Mr Fowler went back even further to the very different world of 25 years ago saying that there are now 100 million more prescriptions a year.

These figures are no doubt considerable but the drug bill has changed little as a proportion of the total NHS expenditure between 1973 and 1983 being about 10 per cent throughout the period. Many new drugs were introduced during that period often saving considerable expenditure in other forms of patient care. As for the number of prescriptions per head, in 1949 it was 4.5, in 1973 it was 6, and in 1983 it was 6.9 it hardly seems an explosive development especially given the increasing proportion of the elderly.

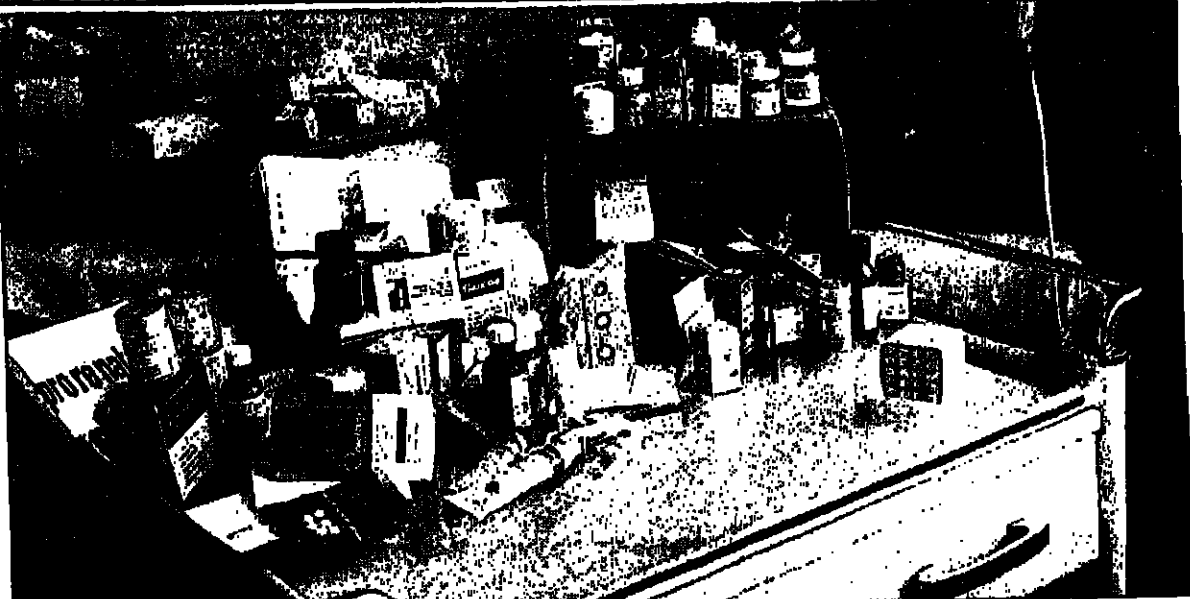
However Mr Fowler attributed these increases to public demand for medication. The method proposed for curtailing prescriptions and thus saving money is to restrict the products which doctors could prescribe at NHS expense. Initially the limited list contained only 30 preparations which would be available. After three months' further, this list was expanded to 108 products on a white list while a "black" list of 1,500 non-prescribable products was also issued.

The products which will be proscribed instead of prescribed fall into two groups: one group are medicines used to treat "minor conditions" of the alimentary and respiratory tracts; the other group is exclusively concerned with the benzodiazepine sedatives and tranquilizers, of which Roche's Valium, the trade name for which the approved name is Diazepam, is the best known example.

There is of course no connection between the two groups except that both lend themselves to curtailment of choice in the general sense that if one product is much the same as another then prescribers should be limited to the cheapest within that group.

The treatment of many ailments still defies the rigours of science and still involves personal judgement and opinion. Therefore claiming that one product is the same as another is very much a matter of opinion.

To take the more "serious" group of products first, the benzodiazepines have revolutionized the treatment of anxiety and insomnia since their introduction 25 years ago and continued development in this class of drug has led to numerous products being avail-



Pills and potions: the prescriber has the central role

alternative drugs. Once again the prescriber has the central role in the use, and misuse, of this group of modern drugs which have proved so effective in dealing with anxiety and insomnia. The limited list is probably justified on a scientific basis even though in practical terms it is not easy or even possible in some cases, to convince the nervous patient that Valium and Diazepam are the same thing.

But even here the major problem is bungled. The Committee on the Review of Medicines (CRM) has drawn attention to the lack of evidence that the benzodiazepines continue to be effective when used nightly for long periods, and the hazard of benzodiazepine dependence as a result of long usage has been emphasized. How much more effective it would have been to encourage limitation on length of time a prescription should run, and how much more effectively could such an approach be used by doctors to convince patients of the desirability of such limitation.

This together with an incentive to prescribe by generic names whenever acceptable would have done so much more than the limited list could achieve in saving money, in patient well being and in health service moral. Perhaps we have all asked for it; whether we should have got it is another question.

Whereas the benzodiazepines represent some of the outstanding developments in modern biochemical pharmacology the products used to cope with some minor ailments of the gut and upper respiratory tract are less firmly science-based.

The common cold - and its symptoms - is not one of the clinician's favourite ailments for it has proved remarkably resistant to medical magic. It is well known that an untreated cold lasts for seven days whereas a medicated cold will last for a week - but be less unpleasant. In many cases the BNF guidelines to prescribers on the use of expectorants, demulcents and compound preparation is clear enough in its opinions. It says quite simply that there is no scientific basis for prescribing any of the preparations commonly used but that a harmless expectorant may have a useful placebo effect.

The diagram shows what doctors

believe to be appropriate treatments for coughs associated with a "chest cold"; that is a "phlegm-on-the-chest" cough not associated with a bacterial infection. Both Benlylin Expectorant and Actifed Compound Linctus were thought to be suitable at least twice as often as any other treatment; the BNF's suggested expectorant, ammonium chloride mixture, almost in the limbo of archaic products, is one of the two expectorants in the limited list.

Both Benlylin Expectorant and Actifed Compound Linctus have considerable over-the-counter sales which would seem to confirm medical opinion since these products have not been advertised to the public. In any case the point of the placebo is that it should enjoy the confidence of the user. It is doubtful if the limited list products will command this confidence however justifiable the argument is that one placebo is as good as another. With Benlylin and Actifed it is the presence of active ingredients that appeals the purists.

The use of a placebo is justified in the BNF on the grounds that it is preferable to the indiscriminate prescribing of antibiotics for minor disorders. No one doubts this; but will not the doctor be driven further down this path if preferred medications are unavailable? Treatment of the symptoms of the common cold represent a difficult area of management which is an art rather than a science and one which bureaucracy and medicine is bound to play a clumsy role.

Is it that the general practitioner is beyond persuasion and enlightenment in prescribing for this common ailment? Or that his experience is not worth consideration? Of course Benlylin Expectorant may still be prescribed but not on the NHS. It is a return to Victorian values where you cough on your own two feet or else to Victorian medicine and those treatments which matter (Big Mother?) knows best.

What do the doctors themselves think of the prescribing restriction? It appears to be strangely mixed, at least among the top brass. The Standing Medical Advisory Committee which advises the Government on clinical matters was against the limited list concept but it was not a unanimous decision.

Most clinicians working in the hospital service and especially those with medical schools are used to the idea of a "hospital formulary" which in effect is a "limited list" and this includes the acceptance of generic prescribing.

There are, however, important differences. "Minor ailments" are not the main concern of hospital practice. Also, consultants are often allowed to override drug restrictions when necessary: not a possibility with the NHS list. The BMA, against the stupidity of the first list, has set its face against such restrictions and claims that prescribing will be distorted. The Royal College of General Practitioners was also against the list regarding it as a limitation on the exercise of clinical judgement. Everyone applauds the aims but most dislike the method.

Pharmacists are also strangely mixed in their reactions to the list. The Pharmaceutical Society is against the concept of prescribing restriction. The Pharmaceutical Services Negotiation Committee whose concern is with the payments to pharmacists for their dispensing services is curiously compliant in accepting the list; providing that doctors do not set the products which are unable to prescribe in the NHS. Practising pharmacists can hardly be looking forward to the confrontations with both doctors and patients

that the list will inevitably bring. On the other hand pharmacists have a good record for giving advice on the medication of minor ailments and may see an opportunity for expansion of this role if GPs are to relinquish it. But which of the 1,500 blacklist products now branded as either needlessly expensive or useless or both, should they now commend? They are even further constrained for they cannot use prescription-only medicines.

It is the pharmaceutical industry which has perhaps most to lose and which the reform is most vehement in its opposition to the Government's policy. The cost of their campaign against the limited list is reputed to be around the £1 million mark and since the original list of 30 drugs has now been expanded to over 100 it may have been money well spent. The original saving of public expenditure resulting from the first list of 30 was estimated to be £100 million; it must now be considerably less. What concerns the industry most is that this is only the first step and that worse, far worse, is to come.

The consequences of this approach to NHS prescribing could be disastrous to the companies which research and develop new drugs and products. Already research funding and recruitment of scientists has been restrained. Redundancies and closure of development facilities are real possibilities; is this a just reward for an industry that has won government contracts for its export achievements? This too is the industry which has a voluntary agreement with the Government to limit profits made from the supply of medicines to the NHS.

Nobody would quarrel with the desire to get "value for money" in any sphere but as always it is the difficulty in making judgements, especially about individuals' health, which makes simplistic solutions suspect. There is little doubt that a limited list would save money; at least in the short term. It is not however a narrow-minded group of medical workers would expect to be controlled. Nor is it a limitation which a patient in hazard would want.

Doctor-patient relationships are bound to be stressed by this new curtailment of the prescribers' freedom. Continuing education may well be needed to keep medical skills at a high level and when the advice and guidance given say in the modern British National Formulary about the use, and costs, of medication are used and generally applied then the end of getting value for money will be achieved, and the "new" drug could then be prescribed if necessary.

It is true that most other western countries do impose some limitation on their Government-supported health services. These schemes often involve differential payments for different classes of drugs by the patient. They are often complicated. It needs must, why not simply increase the dispensing fee? Or is more sinister - is the NHS, the "jewel in the crown" of the welfare state, admired and often envied throughout the world, to suffer the fate of a thousand cuts and private medicine encouraged to thrive un-molested? American experience with reforms of public insurance programmes such as Medi-Cal suggest that "two-class medicine" quickly develops. Is the NHS really safe in Tory hands?

The authors are professor of pharmacology at the London University School of Pharmacy and honorary research fellow at Chelsea College respectively.

Maurice Craft looks at validation and the problem of assessing and maintaining academic levels

Raising a complex standard

Maintaining, and wherever possible raising academic standards, is clearly a central concern of the present Secretary of State for Education, Sir Keith Joseph. It is reflected in his statements on the school curriculum, teachers and teacher education, and in his initiatives elsewhere in higher education.

It is a traditional concern for all educationalists and, indeed, all who believe in the perfectibility of human endeavour. But as Sir Keith has found, this is no simple matter. A complex and democratic society. Responsibility for standards is so widely diffused that he must choose between the slow process of consultation with a host of agencies, and the quicker but more brutal route of central direction.

A second problem is the overlap between validation (that is agreement about the quality of course content and organization) and accreditation (the suitability of a course for professional credentialing). Standards are established by academic bodies, but they may also need to be approved by professional bodies like the General Dental Council or the Architects Registration Council. Furthermore, while universities have a prime responsibility for standards, there is a parallel body, the Council for National Academic Awards, which defines standards in much of public sector higher education.

A particular dimension of the problem is now being extended by the Lindop committee of inquiry into academic validation in public sector higher education, which is expected to report in the spring. As Sir Keith wrote to Sir Norman Lindop last April: "My central concern... is to raise and safeguard academic standards throughout the education system, by increasing the effectiveness with which the resources available are used and by strengthening the arrangements and procedures that bear on standards."

At the present time, the CNAA validates some 1,800 courses involving about 170,000 students in polytechnics, colleges of higher education, and colleges of education. Of the universities, 22 are currently involved in validating courses for some 33,000 students in colleges and polytechnics. Courses in the initial and in-service training of

teachers comprise a large part of this work, and this is roughly shared by the CNAA and the universities.

If the validation of courses were to end, would the external examiner system - itself the subject of a Committee of Vice Chancellors and Principals review - provide adequate safeguards for standards? Examiners would certainly need to be more fully involved were that the case and it is unlikely in present circumstances that senior staff were free to raise to these duties even were fees raised to more realistic levels.

Furthermore, would there not be damage to standards in the loss of that extensive network of scrutinizing committees which, while primarily charged with course appraisal, also have the incidental and quite invaluable role of academic discussion and dissemination? Would smaller institutions, with fewer staff, more limited library resources, and less developed laboratory provision, and less developed ongoing support and stimulus of the validators? It seems likely that they would.

But if validation is to continue, which is the better system? The CNAA's rigorous, systematic and centralized procedures? Or those of the universities which are equally rigorous and which offer continuing face-to-face contact?

Each offers the close, continuous monitoring of departmental staff, changing library, laboratory and research resources, and academic output. Each provides a two-way traffic in ideas which contributes to the academic standards of undoubted value from the continuing academic stimulus of validating courses in their associated public sector institutions; just as the members of CNAA visiting panels and subject panels take with them ideas, bibliographic references and course models as they disperse across the country after each periodic meeting.

The CNAA and university procedures also assist each other, for many university staff participate in the council's work, bringing with them experience of long-established teaching and research programmes, and taking away an understanding of alternative models and procedures to be fed into their own course committees.

But a difference of increasing significance between CNAA and university validation lies in the centralized nature of the council's operations. Public sector institutions relate individually either to the CNAA's national subject and phase committees in London, or to their regional regular basis - not only the university specialists in their respective fields; but, equally important, they will meet their peers in other validated institutions, building up relationships of a more informal, informal and less competitive kind of relationship between public sector institutions. It is at least arguable that the greater regional involvement of a range of university departments, of higher education, is beneficial both to the life of the region itself.

A further advantage of regional validation is the pull it exerts upon the equally legitimate national and international concerns of university departments. Those, for example, in medicine, education, social administration or agriculture are likely to be much involved in their regional departments of literature, modern languages, botany or zoology perhaps rather less so.

It is at least arguable that the greater regional involvement of a range of university departments, of higher education, is beneficial both to the life of the region itself.

Sir Norman Lindop's committee of inquiry thus has a fascinating field to examine. At one level there must be concern for administrative

efficiency, value for money, and sound academic outcomes. At a deeper level there will need to be an awareness of the continuing trend to centralization in our affairs, and for which justification are so readily assembled in a deterministic resource climate.

Centralized accreditation, for example, whether through the established General Medical Council or the Law Society, or the recent Engineering Council or Council for the Accreditation of Teachers, may, in the pursuit of higher professional standards, inhibit creativity and innovation. The community has a right to expect the very best of its licensed professionals and nationwide vetting procedures are clearly important. But if pressed too far, accreditation can impose a deadening uniformity, inhibit progress to the growth of knowledge and to academic excellence.

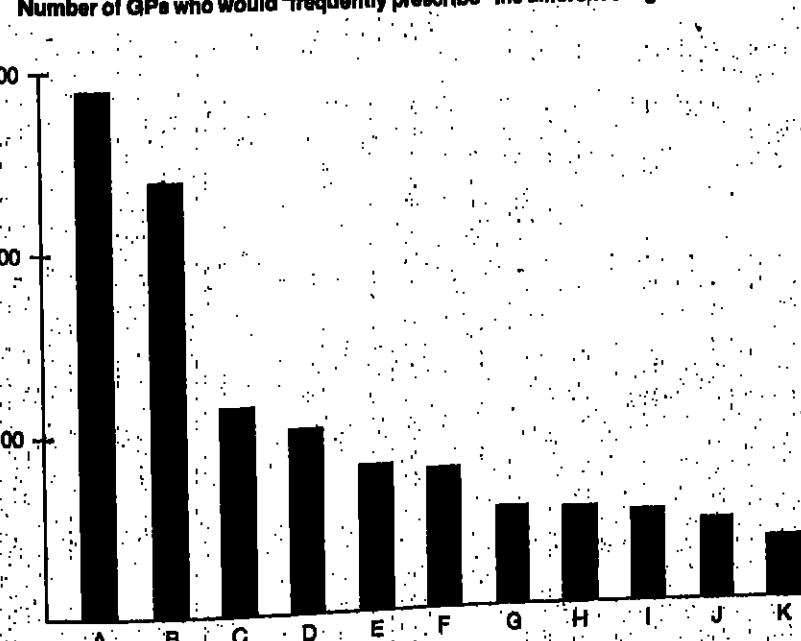
In validation, the development of more centralized procedures would be equally undesirable. It takes no great stretch of the imagination to envisage the use of such mechanisms by a more extreme political regime. For this reason if no other, the CNAA's policies for partnership in validation and the delegation of some responsibility to selected public sector institutions are to be welcomed.

Perhaps, in due course, we may see CNAA validation responsibilities delegated largely to selected polytechnics, which in turn would take on an overview for the work of the smaller institutions in their regions where there is no regional validating university. Such regionalization would offer a significant counterweight to the kind of centralization referred to recently by Professor Denis Lawton as "the lightning grip" in respect of the school curriculum.

The current national review of validation, the first ever, and one that is unlikely to be repeated for a generation, thus presents an opportunity of wide-ranging educational, social and political significance.

Professor Maurice Craft is chairman of the school of education and a pro-vice-chancellor at the University of Nottingham.

Number of GPs who would "frequently prescribe" the different cough medicines



Key: A-Benlylin expectorant; B-Actifed Co.; C-pholcodine linctus; D-simple linctus; E-Phenylephrine; F-morphine and paeonypine mixture; G-Alupent expectorant; H-ammonium chloride mixture; I-Linctus expectorant; J-Gee's linctus; K-Mucodyne

Dr Lannon is a fellow of Lady Margaret Hall, Oxford.

BOOKS

Poet and painter

Esra Pound and Dorothy Shakespeare
their letters 1909-1914
edited by Omar Pound and
A. Walton Litz
Faber, £25.00
ISBN 0 571 13480 7

Esra Pound met Dorothy Shakespeare in London during early February 1909, most probably at her family home. He was 23, fresh from Italy and his first two volumes of verse, seeking the world of Yeats and the 1890s, and convinced, as he wrote to William Carlos Williams in the same month, that London was "the place for poetry."

It was natural, then, that with the aid of the Australian poet, Frederic Manning, he should find his way to the literary household dominated by Dorothy's mother, Olivia, a minor novelist, a first cousin to Lionel Johnson, the nineties poet and member of the Rhymers' Club, and regarded by Yeats himself as "the centre of my life in London." No letters survive from 1909, but Dorothy, barely a year his junior, recorded her initial impression of the poet in her notebook: "Oh! Esra! how beautiful you are! With your pale face and fair hair! I wonder are you a genius? or are you only an artist in life?" In many ways, her question here was to constitute the tone for much of their correspondence - the first letter we have from Esra was written nearly a year later and began, with only a slight sense of irony, in the inflated manner of one assuming the role of "poet": "Hail Grand daughter of Agamemnon!"

Their literary intercourse charts the progress of the Romantic poet of "the Truth" and "the Beatific Vision" towards the modernity of appreciating Wyndham Lewis's paintings and Claudier-Brazzani's sculptures, a progress which Dorothy's letters also chart. The diversity of their reading. They shift from Flaubert (whose *Salammbo* was agreed by both to be "stodge") to the theosophical reaches of Joseph Ennesse's *The History of Magic*, from the *Koran* to the Hellenic exercises of their friends Richard Aldington and H. D., from Marcus Antonius Plinius to Maurice Hewlett (whose most recent poetry earned Esra's castigation in 1912 as "the worst bilge I have ever seen"). Such variousness, unmatched by any other modern writer, disavows the comfort of categories (how are we to account, to take a random sample, for the work on "religion in biology" of George Milby Gould, the Philadelphia opticianologist whom Esra had consulted as an undergraduate?) and prepares us substantially for the polygenetic voice of the poetry itself. Indeed, utterance of the letters approximates closely the articulations of the poetry and the critical prose. All three share what the editors call Esra's "crisp, elliptical form", a form whose seeming awkwardness and abrupt switches and ellipses found their rationale in a suggestively misspelled axiom of early

1913: "The external use of the balanced sentence shows a corresponding internal unbalance (vide in the mind)."

Overwhelmingly the letters concern themselves with matters of aesthetics. The only personal moments occur in either the extracts from Dorothy's notebooks or the poems Esra wrote specifically for her. This is, perhaps, rather odd in a volume of what could be considered customarily as "love letters" - even her family's disapproval of their relationship (primarily, we surmise, on economic grounds) failed to register any excess of emotion. The reason, I would suggest, was an uneasiness with the false privacy of the epistolary mode, its distance from genuine contact. As Dorothy wrote rather movingly just prior to Esra's eight-month "exile" to America in 1910-11, "I have not your mouth to watch, and you have not my eyes to tell you things."

The title of this volume has been carefully chosen, giving an equality of weight to both participants. This is important because although it is inevitable that the letters will be consumed from a Poundian perspective, Dorothy surely warrants attention in her own right (she does, after all, provide 124 of the letters while those of Esra number 73). She was a gifted painter, but how many of us have seen her work? It is clear that she should be accorded a fuller place in Esra's early poems. As the editors suggest, for example, his *Canzon* of 1911 is revealed as very much "Dorothy's Book", in terms not only of her personal presence but of their shared exploration of ideas and her excitement in the initial discovery of things oriental, a decisive moment in Esra's intellectual history, was in fact more sustained than his own. Nevertheless, it would constitute a severe disservice to leave her relegated to a series of scholarly footnotes. From this point of view, it is unfortunate that the only fault within an otherwise marvellously organized compilation lies in the editors' curious decision to omit the sketches her letters occasionally included, sketches whose attention ranges from the domestic (a Venetian purse for her mother) to the visually significant ("one of the most lovely idols in the world" that she saw

It is a fitting inauguration to the centenary year of Esra's birth that this should be marked by the first substantial volume of letters since the collections of 1912 and 1951 and Read in 1968. The latter focused specifically on Esra's letters to and essays on Joyce, while the former presented a general coverage of the period 1907-1941, and incorporated only 10 letters earlier than 1913. Neither included any correspondence to Esra. By comparison, the present volume is the first two-sided edition we have and covers in detail those crucial years of Esra's apprenticeship work for modernity. We can be sure that this will not be the last of the new Pound/Shakespeare correspondence (the editors calculate the existence of a further two thousand letters), and it is to be hoped that further publications will maintain the fresh foregrounding of the painter as well as the poet.

Ian F. A. Bell

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Using emotion

Forms of Feeling in Victorian Fiction
by Barbara Hardy
Peter Owen, £12.50
ISBN 0 7206 0611 X

Serious discussion of novels is difficult, because to read them adequately is to live for the time being in the world of the novel and take the scene and characters as really there; but when the time comes for illustration, evidence, and argument, nothing is "there" but texts. The vivid places and people the reader has been living with have all gone.

Professor Hardy in her new book has thus to manage the transitions between the world we guess our fellow-readers may be creating, the world we ourselves are creating in response to the novelists' words, and the common public materials - the text - which provide the only impersonal sanction for the critic's commentary. Part of her critical idiom has been devised to analyse symbolism, allegory, figures of speech, stylistic texture; part of it, epoch, emotional quality, moral psychology. She has to move between considering fiction as form and fiction as mimesis. As a rule she does this skillfully, but without concession to the casual reader. To understand the force of what she is saying you have not only to have a previous knowledge and

general grasp of the particular novel she is discussing, but be prepared to take it off the shelf and look at the passages discussed in their original context.

The strength of the book is in particular discussions, which suggest a background of teaching and classwork, in which objections are raised, and met, or conceded. The chief problem about the book arises, I think, from its form. It is for the most part a series of essays on Victorian novels. Themes recur, and the main idea, that "the novel uses emotion to investigate emotion", is frequently brought to mind. But there is no continuous developing argument. The essays are numbered like chapters, but they are not really parts of a whole.

The introduction and the first essay, which touch on pre-Victorian fiction, are not sufficient to act as binding-matter, and they suggest a framework of generalization which looks rather shaky, both critically and historically. Many difficulties lurk in Mrs Hardy's diction: "Bad novels represent the affective experience falsely, through lies and mistakes, while good novels try to learn and understand." The novelist who invented (say) Scarlett O'Hara cannot surely have lied or been mistaken about Scarlett O'Hara, a fictitious character. The lie or mistake can only have been about the likely feelings and behaviour of that type of person. But do we really know enough about human beings to make that kind of judgement?

The historical aspect of the book is also a little dubious. Mrs Hardy wants to show that there is a real continuity between pre-Victorian fiction, which she calls "reflexive", (ie self-referential, using devices which signal that it is fiction) and the realistic psychological novel of the Victorian. But the way she does this is to play down the extent to which the earlier novels are mimetic. I do not feel that she has them quite as much in focus as the Victorian ones. Perhaps symptomatically, she throughout misnames *The Pilgrim's Progress* (calling it *A Pilgrim's Progress*). Of Robinson Crusoe she says: "Daniel Defoe's voyages, storms, shipwrecks and desert island are allegorical." Well, it is true that Defoe says they are (in "Robinson Crusoe's Preface"), but literary historians have been sceptical, seeing in this a dodge on Defoe's part to retain Bunyan's pious public. Robinson Crusoe is surely about a struggle for physical survival. It is a paradigm of realism (though not of probability), suggesting the change from a semi-spiritual world in which things "stand for" other things, to the world which has to be subdued by man's senses and experience; in contrast to the world of Bunyan's Christian, who, cast into a dungeon, finds a key to it about his person.

There is a thread of reference to allegory in Mrs Hardy's discussion of Dickens, Thackeray, the Brontës, George Eliot, Hardy, and Henry James, and sometimes I found this distracting. Allegory does of course occur in novels, but it is only one of the means by which the novelist conjures up "forms of feeling", and arguably not the most typical. But by the time we come to the Victorians the book is less committed to a thesis and more convincing. On Dickens, Mrs Hardy offers a valuable discussion of his sentimentalism, looking in detail at *Nicholas Nickleby* (the business of Snike), *The Old Curiosity Shop* (Neil Trent), *Domby and Son* (Paul), and *Bleak House* (Jo the crossing-sweeper). She concedes something to adverse criticism of Dickens over the first three, but defends the last, including Jo's death-scene, which David Cecil once called "a dreadful piece of writing".

Mrs Hardy is one of the few critics who seem to like both Dickens and Thackeray, and she analyses and diagnoses the uneasiness of Thackeray very shrewdly. I especially value her discussion of the novel in which he is most uneasy, *Henry Esmond*. Her eye for detail helps her to search out many overtones and oddities in the treatment of the relations between the narrator and his "mistress", Rachel.

The discussion of the Brontës, and of George Eliot and Henry James, is also excellent, and too specific to summarize. I will touch only on the critique of *Wuthering Heights*, so popular with readers, so puzzling to critics. Mrs Hardy takes the view that it is a "lyrical novel", and her very full and sympathetic discussion succeeds in giving substance to that description. O. D. Leavis is rebuked for her insensitivity to the quality of the novel, as in her contention that Heathcliff is a bastard. Mrs Leavis may have been too literal-minded, but I cannot help feeling that there is a problem here. What kind of reader was Emily Brontë writing for? Unless she was writing for children, it is difficult to see how Mr Earnshaw's cock-and-bull story of "picking up" the wild Heathcliff in the streets of Liverpool could be taken as anything other than a coded way of referring to his illegitimacy.

Where all is so full of interest it is hard to decide on which is the best essay in the book, but I liked best the discussion of Thomas Hardy, which touches on the lyrical poetry and *The Dynasts* as well as the novels. This is not the unsympathetic Hardy of Robert Gittings, but the reflective tender Hardy that many readers have inferred from his work. One of the very good points made is the discrepancy between what the narrative voice says at the end of *The Woodlanders* and what Marry South says. This suggests that the "sympathetic" Hardy is created more through the character than through the narrative voice. I am not sure about another point, the observation that *The Woodlanders* and *The Trumpet-Major* are the only novels of Hardy that end on the note, "I wondered about the end of Jude, where Arabella, speaking out of character, or is she?" says of Sue: "She's never found one since she left his arms, and never will again till she's where he is now!"

This is not quite the balanced account of feminist literary studies which it sets out to be: it is probably simply not possible at the moment to write such a book. But Professor Ruthven's enterprise is fully justified because he makes his readers so sensitive to the difficulties of his project.

Clare Hanson

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BOOKS

Critical period

Economic Expansion and Social Change England 1500-1700
volume one: People, Land and Towns
volume two: Industry, Trade and Government
by C. G. A. Clay
Cambridge University Press, £20.00
and £6.95 (each volume)
ISBN 0 521 25542 8 and 27768 X;
25943 6 and 27769 8

Early modern merchants were fond of trying to extend the size of their market by offering a greater range of products, similar in all but name. So it would appear as publishers today. Dr Clay's textbooks appear in a field already well served, notably by Professor Coleman's masterly survey of the same period. What then does this new survey have to offer?

Dr Clay's own justification for another survey is that it fills a gap by offering a substantive amount of information on the principal subject areas into which the social and economic history of the period has been conventionally divided, "set firmly in an interpretative context". There are chapters on population, prices, agriculture, landed society, urban economies, poverty, industry, trade, economic regulation and government finance. Not surprisingly, Clay's treatment of these provides a mirror in which can be discerned the reasonably current state of historical knowledge.

Where recent work has greatly advanced our understanding of the period, for example in demographic history, Clay offers a concise and intelligent summary; where recent advances remain enmeshed in scholarly monographs and articles, he advances a clear and judicious summary. And given

two volumes in which to pursue his aim, Clay does so with great success. At the heart of these volumes are valuable, lengthy sections on agriculture, trade and industry which early soundings in the field suggest are greatly appreciated by students.

There are, however, problems which suggest that Dr Clay's volumes will not be as successful as they deserve to be. Clay insists in his introduction that his aim "is not to advance a particular thesis or interpretation of the 16th or 17th centuries as a whole". In this, he is of course deceiving himself and denying his undergraduate readers. For while there is no discussion of grand theoretical interpretations of the period in terms, say, of the transition from feudalism to capitalism, he does have an interpretation to advance. England begins the period with an economy dominated by agriculture and an agriculture in the grip of a subsistence peasantry. Commercialization of agriculture under the stimulus of population growth sees a slow increase in agricultural productivity which prevents Malthusian crisis but cannot prevent an inflation of prices which limits the possibilities of significant industrial growth in the 16th century. Demographic stabilization and greater gains in agricultural productivity following the adoption of advanced agricultural techniques see the terms of trade moving in favour of the non-agricultural sector by the late 17th century. This period then becomes a critical one in which growth in the home market provides a significant base for growth in the industrial and commercial sectors.

This is a familiar picture, but Clay has the space to draw it with skill. The tragedy is that students unfamiliar with the period will have to work hard to recover it. Clay's unwillingness to advance an overall interpretation may explain, but cannot justify, the lack of either introductory or concluding

chapters. Students who attempt to grapple with the chronology of change and shifting interrelationships of sectors of the economy will find their task made harder by the thematic approach of the volumes. Other problems remain about which it may be churlish to complain. Any textbook survey succeeds with its market to the extent that it offers seemingly authoritative judgements. But in a period littered with lively debates, Clay's swiftness of foot sometimes fails to allow him time to suggest to the student reader something of the awkwardness of the historical record and interpretations erected thereon. Important debates receive short shift or only cursory acknowledgement. The adoption of the social scientific convention of acknowledging sources in the text and the lack of an annotated bibliography perhaps compound the problem.

There is, however, one final problem that does deserve more serious attention. In a book taking as its title "Economic expansion and social change" there is only a limited and partial discussion of early modern society. While Dr Clay could rightly claim that the growing body of work in the social history of the period has little to add to his interpretation (though there is more recent work not drawn on here on subjects like poverty and social order and disorder), the surprising absence of any sustained discussion of social structure denies the student a social context in which to make sense of the growth of the home market. If social history is sometimes (and rightly) accused of ignoring the economic, it is unfortunate to find the reverse occurring here.

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Tracing fertility patterns

The British Fertility Decline:
demographic transition in the crucible
of the Industrial Revolution
by Michael S. Teitelbaum
Princeton University Press, £39.80
ISBN 0 691 09405 5

Dr Teitelbaum's book, published under the auspices of the Office of Population Research at Princeton University as one of a series of volumes on the decline of fertility in 19th and 20th century Europe, takes us a further significant step closer to a clearer understanding of the forces which together accounted for the onset of the fertility transition in late 19th-century Britain.

That the book succeeds in breaking new ground in an area of study which has already attracted massive scholarly interest is a tribute to the novelty of the approach and methodology it adopts. In contrast to earlier work, with its disproportionate concentration on the experience of England and Wales and its reliance on aggregate, nationwide data, Teitelbaum's study is unusual both in the emphasis given to Scotland and, to a lesser extent, Ireland and in its attempt to see what can be learned about the timing, character and causation of the fertility transition from a painstaking multivariate statistical analysis of county by county variations in fertility levels and their underlying causes. The result is an unsurpassed profusion of original data, presented and analysed with a clarity all too often lacking in work of this kind.

The book is invaluable in three ways. First, it clarifies and orders the complex range of forces which underlay the modern decline in rates of fertility and in doing so confirms that although economic and social conditions were the predominant influences, technological and cultural factors also made a significant contribution. Second, it provides a timely and necessary reminder of the diversity of demographic experience which existed even between countries as geographically proximate as England/Wales, Scotland and Ireland. The uniqueness of Ireland's population history, of course, has long been recognized. Less obvious, until now, were the considerable differences which also existed between England/Wales and Scotland, the regional homogeneity of fertility levels and trends in the former contrasting sharply with the regional heterogeneity of fertility schedules in the latter. Third, it raises the critical but hitherto largely overlooked question of why in such an advanced industrial and sociocultural entity as 19th-century England the onset of a substantial and irreversible decline in fertility should have been so long delayed. In his attempt to explain the divergence in England and Scottish regional fertility patterns and the late arrival of the fertility transition, the author opens out interesting, new interpretive possibilities which others concerned with the causes of late 19th-century fertility decline might fruitfully pursue.

Teitelbaum's reliance on explanatory models based on a highly aggregated level of analysis, on the other hand, does have its weaknesses. Above all, it makes little, if any, allowance for the possibility of substantial variations in methods of, and motives for, fertility control between different social groups. Too often, perhaps, it interprets the adoption of lower fertility norms by the working classes in terms of middle and upper-class experiences, an interpretation which sits most uncomfortably with much of the recent literature on the subject.

As the author himself acknowledges, however, a good deal of work remains to be done. At the very least, he has provided us with a firmer statistical and theoretical basis upon which to do it.

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Tracing fertility patterns

The British Fertility Decline:
demographic transition in the crucible
of the Industrial Revolution
by Michael S. Teitelbaum
Princeton University Press, £39.80
ISBN 0 691 09405 5

Dr Teitelbaum's book, published under the auspices of the Office of Population Research at Princeton University as one of a series of volumes on the decline of fertility in 19th and 20th century Europe, takes us a further significant step closer to a clearer understanding of the forces which together accounted for the onset of the fertility transition in late 19th-century Britain.

That the book succeeds in breaking new ground in an area of study which has already attracted massive scholarly interest is a tribute to the novelty of the approach and methodology it adopts. In contrast to earlier work, with its disproportionate concentration on the experience of England and Wales and its reliance on aggregate, nationwide data, Teitelbaum's study is unusual both in the emphasis given to Scotland and, to a lesser extent, Ireland and in its attempt to see what can be learned about the timing, character and causation of the fertility transition from a painstaking multivariate statistical analysis of county by county variations in fertility levels and their underlying causes. The result is an unsurpassed profusion of original data, presented and analysed with a clarity all too often lacking in work of this kind.

The book is invaluable in three ways. First, it clarifies and orders the complex range of forces which underlay the modern decline in rates of fertility and in doing so confirms that although economic and social conditions were the predominant influences, technological and cultural factors also made a significant contribution. Second, it provides a timely and necessary reminder of the diversity of demographic experience which existed even between countries as geographically proximate as England/Wales, Scotland and Ireland. The uniqueness of Ireland's population history, of course, has long been recognized. Less obvious, until now, were the considerable differences which also existed between England/Wales and Scotland, the regional homogeneity of fertility levels and trends in the former contrasting sharply with the regional heterogeneity of fertility schedules in the latter. Third, it raises the critical but hitherto largely overlooked question of why in such an advanced industrial and sociocultural entity as 19th-century England the onset of a substantial and irreversible decline in fertility should have been so long delayed. In his attempt to explain the divergence in England and Scottish regional fertility patterns and the late arrival of the fertility transition, the author opens out interesting, new interpretive possibilities which others concerned with the causes of late 19th-century fertility decline

BOOKS

Turning back the clock

Scepticism, Rules and Language by G. P. Baker and P. M. S. Hacker. Blackwell, £15.00. ISBN 0 631 13614 2. Language, Sense and Nonsense: a critical investigation into modern theories of language by G. P. Baker and P. M. S. Hacker. Blackwell, £22.50. ISBN 0 631 13519 7.

As parts of an integrated project in which current ideas about language are subjected to criticism under the guidance of Wittgenstein's later philosophy, these two books start from different points but both point in the same direction.

Scepticism, Rules and Language begins with an examination of Saul Kripke's interpretation of Wittgenstein's private language argument from *Philosophical Investigations*. Kripke's account emphasizes the notion of a rule, pursues that notion in the formal context of a rule of mathematics, and canvasses what has come to be called a "rule-scepticism". The standard view of Wittgenstein's argument emphasizes private experience, pursues that notion in the context of the problems of other minds and subjectivism, and comes to anti-sceptical conclusions.

Baker and Hacker believe that Kripke's account is wrong on two counts. His interpretation of Wittgenstein is mistaken, and the sceptical problem he canvasses is in any case spurious. The first two of the three sections of the book argue respectively for these conclusions. The third looks more positively at Wittgenstein's wider views about language and reality.

Language, Sense and Nonsense has a more ambitious and wider scope. For the authors claim that virtually the whole of recent work in philosophy of language is fundamentally mistaken. Theorists such as Noam Chomsky, Michael Dummett, Donald Davidson, and Rudolf Carnap, and all the others who have followed in their wake, have fallen into these alleged mistakes. In general truth-conditional semantics, the distinction between sense and force, appeals to deep structure and to tacit linguistic rules, and indeed the whole framework in which these items have been placed, are all irredeemably flawed.

The authors encourage extreme formulations of their views both explicitly in their counter-claims and implicitly in the manner of their attack. On the former side they express the view that philosophy of language as currently



"Seated Young Woman with a Coffee Cup", a drawing by Max Beckmann taken from a new study of his work by Carla Schutz-Beckmann and Judith C. Weiss. Max Beckmann: a retrospective is published by Norton at £39.95.

conceived is nonsensical, not merely wrong in detail. On the latter side they engage in a vehement polemic against their opponents in terms reminiscent of Gilbert Ryle's attack on Cartesianism in *The Concept of Mind*. Much of their inangery - the vacuity of the emperor's clothes, current theorists' defence of an illusory citadel - echoes that of Ryle. In this, and other ways the authors attempt to turn the clock back to the immediate postwar heyday of the later Wittgenstein's philosophy.

The authors provide summary accounts of the theories they wish to reject in this way and some account of the historical origins of these theories. They give detailed criticisms of various accounts of sense and force, of various truth-conditional theories of semantics, and of the various philosophical linguistic rules. The most general errors made in philosophy of language are, allegedly, to misconceive linguistic theories as scientific, to violate a distinction between empirical and conceptual problems, and to conjure up a bogus realm of Platonic entities to satisfy the theorists' nonsensical demands. More positively the authors emphasize the therapeutic conception of an "internal" relation between language and reality, a conception of "rule-following" which excludes the idea of tacit rules, and Wittgenstein's general injunction to "leave everything as it is". Though provisos are sometimes made it appears that there simply is no room for theories of language: that linguistics is really a bogus discipline.

There is a marked difference between the rejection of Kripke's account of Wittgenstein's philosophy and the wide-ranging polemic against current linguistic theory. The former view is almost certainly correct and is in any case plausibly argued and well

documented. Probably most readers of Kripke's book who were familiar with Wittgenstein's text will have recognized that his interpretation, at least if treated as exhaustive, is eccentric. Even Kripke himself was aware of this. The authors also make a plausible case for the utility of philosophical scepticism and its specific rule-sceptical form, though it is arguable whether Wittgenstein's apparatus helps or hinders this enterprise.

The real trouble arises in the later stages of the project. For here the arguments are puzzling and inadequate, the conclusions obscure and implausible, and the Wittgensteinian therapy increasingly ineffective. There is no doubt that many issues are usefully raised. After all linguistic scepticism is a current philosophical activity because it remains recalcitrant and obscure. But Baker and Hacker's arguments are designed not as a contribution to the development of that area but as a demolition of it. In that operation their polemical manner increasingly obscures rather than clarifies the issues.

Three persistent worries concern the precise conclusions to be drawn, the strength of the arguments for those conclusions, and the more positive thesis to be advanced. Under the first head it remains unclear whether the whole activity of current linguistic theory is to be regarded as a complete waste, or whether it is only certain misconceptions about that activity which are to be rejected. Thus the authors evidently dispute the claim that philosophy of language is at the centre of all philosophy, but that claim might be rejected without damaging the value of specific work in philosophy of language. Similarly the authors plainly wish to deny that theories of language are to be understood on the

From the horse's mouth

Dialogues with Contemporary Continental Thinkers by Richard Kearney. Manchester University Press, £17.50. ISBN 0 7190 1087 X.

Richard Kearney's book, subtitled somewhat over-ambitiously "the phenomenological heritage", brings together six interviews conducted by the author between 1976 and 1982. The "contemporary continental thinkers" of the title are Paul Ricoeur, Emmanuel Levinas, Herbert Marcuse, Stanislas Breton and Jacques Derrida. The fact that there are six interviews and only five interviewees is explained by the presence of two separate interviews between Kearney and Ricoeur, devoted, respectively, to "the creativity of language" and "Myth as the bearer of possible worlds".

However the author may describe them, these recorded encounters are emphatically interviews and not dialogues. Kearney asks short questions and the philosophers respond with

statements of position. The object of the procedure is, as he puts it in his introduction, to "afford each of the five thinkers an opportunity to introduce, situate and clarify their own work, to speak for themselves as it were". To this end each is accompanied by brief biographical and bibliographical notes so that the reader shall not encounter the thinker in absolute ignorance of the man he is about to meet.

Kearney's chosen thinkers are, as he realizes, a rather mixed bag. Each, indeed, owes something to the phenomenological current in European philosophy but how different is the debt in each case only emerges in the course of the interviews. In the case of Marcuse, though once a student of Heidegger, it seems very small indeed. In spite of Marcuse's claim that Heidegger "taught me a great deal about what real phenomenological 'thinking' is", the views he expresses represent nothing more philosophically interesting than a reiteration of that mixture of politicized aesthetics and liberationist social criticism which has him a passing popularity when the New Left was still new.

The other interviews are more intellectually challenging; though time and again the most significant questions - the ones that might penetrate to the heart of the respondent's concerns - are the ones that are never asked. Because these are respectful interviews and not philosophical dialogues between equals the questions are seldom sufficiently searching and the ambiguities and occasional evasions to which the answers pass without comment. Let me give two examples. In his first interview Ricoeur remarks that: "utopian discourse functions as a mystification ideology as soon as it justifies the oppression of today in the name of the liberation of tomorrow". He adds that: "ideology as a symbolic confrontation with the past and utopia as a symbol opening towards the future are complementary; if cut off from each other they can lead to a form of political pathology". But is it not precisely the attempt to establish a relationship between the utopian promise of a perfect society and the ideological premise which legitimates the real thing that leads to the "political pathology" of the totalitarian state which take to be condemned in Ricoeur's previous sentence? Does it not follow that the more one cuts off utopia from ideological discourse the better the chances of avoiding a pathological form of polity?

Then again, in the course of an interesting account of his philosophical background and religious and ethical concerns, the Jewish philosopher Levinas says: "Nobody can really say I believe - or I do not believe for that matter - that God exists. The existence of God is not a question of an individual soul uttering logical syllogisms. It cannot be proved." If the latter is indeed the case, as most non-scholastic philosophers would agree, then surely it is precisely the absence of empirical or logical proofs that calls into being the language of belief and non-belief. The statement "I believe that God exists" is a form of self-avowal and an expression of faith distinct from the vocabulary associated with the realms of empirically testable knowledge and of formal or mathematical logic.

Richard Kearney might protest that to pursue such questions would have interfered with the primary purpose of the book, which is to introduce English-speaking readers to thinkers some of whom, like Levinas and Stanislas Breton, are hardly known in this country. That may be so, but it allows matters like those I have noted to pass unremarked to risk confirming the worst suspicions of those for whom continental thinking remains a confused and confusing mishmash of unprovable assertions.

David J. Levy

David J. Levy is lecturer in sociology at Middlesex Polytechnic.

Edinburgh University Press has published a collection of essays, *Philosophers of the Scottish Enlightenment*, in honour of George Davie, author of *The Democratic Intellect*. Contributors from Scotland, the USA, Canada, Germany and Australia cover a range of topics that find common ground in the philosophy of law. The essays include MacIntyre on Duns Scotus, Reid's jurisprudence, and Tom D. Campbell on "Adam Smith and the Economic Analysis of Law". The book costs £20.00.

Andrew Barker

Dr Barker is lecturer in philosophy at the University of Warwick.

BOOKS

MATHEMATICS AND PHYSICS

Absolute frame of reference

Understanding Relativity: origin and impact of a scientific revolution by Stanley Goldberg. Clarendon Press: Oxford University Press, £17.50. ISBN 0 19 853910 X.

It is a little hard to be sure just what Stanley Goldberg's thesis is in this book. He sees himself as "challenging the general notion that science is objective and progressive", holding that knowledge in science "is no more or less subject to social processes than knowledge in other areas". We might expect, therefore, a full-blooded "socially relative" argument. What we find being expounded, however, is a much more plausible, though much weaker, position: that the extent to which the ideas of a theory are fully understood by the community of scientists at any one time, and also the extent to which the lay audience shares in that understanding, are socially determined. Goldberg has his own version of the story: he thinks in terms of a concept of "national intelligence" which determines the appropriate social milieu in each country. This is a view that is worth investigating, but it seems to leave untouched the most absolutist view of scientific truth.

Special relativity has been chosen

for the investigation because it is a modern theory - by the standards of the history of science, for it is still less than a century old. It is a good choice, because it is well-documented period. It does, however, have one incidental disadvantage for the author the same story, without the social baggage, has been brilliantly told by Arthur Miller in his *Albert Einstein's Special Theory of Relativity: emergence (1905-1911)* (Addison Wesley, 1981). To what extent, then, does Goldberg complement Miller?

Goldberg casts his net much wider; he begins with Aristotle's mechanics, he makes much less demands on his readers' prior knowledge of physics or mathematics by including very full and careful elementary accounts of the theories, and he does include a little (though only a few pages) about general relativity. With his main text somewhat shorter than Miller, it is inevitable that his book is to some extent a less scholarly version of Miller - except for the specific attitude already mentioned.

Goldberg's philosophy of science is a somewhat simplistic one. He believes that it is always the case that "the relationship between explanation and theory on the one hand, and evidence, that is, phenomena and experiments on the other hand, may be cast into the following form: (d) If A then B; (e) I observe B; (f) therefore A." He returns to this naive analysis more than once, but it does not invalidate the main theme of his work: once we get down to what really happened, it does not.

Goldberg's account of the theory of special relativity is clear, and follows the general lines of many serious popular versions, starting with the optical experiments and the search for an absolute frame of reference. It is unusual in that context in doing very full justice to H. A. Lorentz's theory and in posing the important question of why in the end Lorentz's theory was the loser: it was not for experimental reasons, since the two theories made the same predictions, but because

relativity suggested the right questions to ask next - a superior heuristic. The second part of the book describes and compares the responses to the theory between its genesis in 1905 and the Solvay conference of 1911 (by which time it could be regarded as accepted by a count of heads) in Germany, England, France and the United States. The variety of universities in Germany and their rivalry led to an active debate and to a wide range of responses. The dead hand of the mathematical tripos in England led, at first, to no notice being taken and then to considerable effort to assimilate the new theory to the old model-building aesthetic theories.

The American response was at first one of indifference and then in some quarters of hostility ("a useful theory must be intelligible to all people"). This approach was modified somewhat by British influence but much more as the period went on by the burgeoning of the big research establishments, and of course, by the important experimental input that America was able to make.

The greatest mystery surrounds the French position. Henri Poincaré made no mention of Einstein's work and it was virtually ignored in France for the whole of the period. Goldberg acquires Poincaré of petty jealousy and lays the blame at the door of the excessive central control of French education. He pursues this education theme in the third part, when he considers the assimilation of the theory in America since 1911.

There is a lot in this book for physics undergraduates or for historians of physics. Although the scholarship is not the same high standard as Miller, the clear text is augmented by numerous illustrations which help the argument along.

C. W. Kilmister

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Heretical treatise

Mathematical Astronomy in Copernicus's *De Revolutionibus*, parts one and two by N. M. Swerdlow and O. Neugebauer. Springer, DM 238.00. ISBN 3 540 90939 7.

When Copernicus's *De Revolutionibus* was published in Nuremberg in 1543, it was the most significant astronomical treatise to have appeared since antiquity. The reform of astronomy had occupied Copernicus from the time of his university studies in Cracow and in Italy, although his official duties, as a physician and in administrative tasks for the diocese of Warmia. In 1539 he was visited by Georg Joachim Rheticus, a young Lutheran astronomer from Wittenberg who published a first report on the new system and undertook to see Copernicus's work through the press.

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and translations of *De Revolutionibus*. Tables and diagrams are printed in a separate volume, so that these may be conveniently placed side by side with the text to which they refer.

The principal innovation of Copernicus's system was the motion of the Earth, which he was unable to prove. For the rest, he accepted Ptolemy's models as basically accurate in representing astronomical phenomena, though in need of new parameters, for the determination of which he carried out his own observations. The elimination of non-uniform motions, which he considered to be the main defect of Ptolemy's theory, he stated to be the chief motivation for his work. With such limited objectives - to represent Ptolemy rather than nature, as Johannes Kepler expressed it - he could not go beyond Ptolemy in either descriptive or numerical accuracy. Yet the magnitude of the task he had set himself was such that he needed 30 years to carry it out. Even in his efforts to produce physically admissible models equivalent to those of Ptolemy, Copernicus was not original. For his modifications of Ptolemy were essentially heliocentric transformations (in which the centre of the Earth's orbit rather than the Sun itself was placed in the centre) of the models of Ptolemy's astronomers at the Maragha observatory in the thirteenth century.

A page of notes in Copernicus's copy of the *Almagest* Tables provides the basis for Swerdlow's account of how Copernicus arrived at the heliocentric theory. His analysis of the second or solar anomaly of the planets could not go beyond Ptolemy in either descriptive or numerical accuracy. Yet the magnitude of the task he had set himself was such that he needed 30 years to carry it out. Even in his efforts to produce physically admissible models equivalent to those of Ptolemy, Copernicus was not original. For his modifications of Ptolemy were essentially heliocentric transformations (in which the centre of the Earth's orbit rather than the Sun itself was placed in the centre) of the models of Ptolemy's astronomers at the Maragha observatory in the thirteenth century.

Today Copernicus is generally regarded by scientists and historians as the founder of modern astronomy; while his theory has been a favourite choice among philosophers of science seeking a prime example of revolutionary change to illustrate their accounts of scientific method and progress. The commentary on Copernicus's formidably technical treatise now offered by Professor Swerdlow, already well known for his translation and comment on Copernicus's *Commentaries* and his heliocentric theory and Professor Neugebauer, the distinguished doyen of historians of ancient mathematical astronomy, should therefore be of interest not only to specialists but also to a wider readership eager to learn more about Copernicus's daring contribution to the evolution of scientific ideas.

While the major part of the commentary consists of an exposition of the technical details of the models of the planetary motions used by Copernicus, planetary motion was set out in the final revision for the 1543 Nuremberg edition is explained and re-computed, an introductory chapter gives a biography of Copernicus, together with an account of his sources and a description of the texts, editions

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BOOKS

MATHEMATICS AND PHYSICS

Broken symmetry

Supermanifolds
by Bryce DeWitt
Cambridge University Press, £35.00
ISBN 0 521 25850 2

A magnificent breakthrough in man's understanding of nature was achieved in 1983 by the discovery that nature possessed symmetrical properties to a very high degree. This came about through the discovery of two new elementary particles, the W and Z bosons, which justified uniting electromagnetism and radioactivity in a beautifully symmetrical manner.

The symmetry of a work of art has always appeared to man as giving it a certain aesthetic appeal and elegance. How natural that this attractive feature has been found to be intrinsic to nature at a very deep level, and not just something imposed on it by man's sensibilities. Moreover, this discovery gave credence to the scientific quest to obtain the simplest possible description of nature in terms of a few, if not one, basic underlying concept. All the present aspects of experience would arise by destruction of the inherent symmetry of the basis of material existence. "Broken" symmetry would thus lead to the many different features of matter we observe around us.

This leads to two questions. First, what are the possible candidates for the underlying symmetry of nature which would achieve a unique unification of all physical theories of the forces of nature? Second, how would any such symmetry be broken in a natural fashion so as to lead to the presently observed multi-faceted world about us? There are various answers to these questions, but a majority of scientists working in this area would say that the best avenue to follow to discover the unifying symmetry is through what is now called

"supersymmetry". The possible breakings of that supersymmetry are presently much less clear.

Supersymmetry was first introduced in the early 1970s independently by the Russians, Golfand and Likhman and in a more popular form by the Europeans Wess and Zumino. The symmetry itself is between matter and radiation. Thus, it posits that there is no fundamental distinction between matter (electrons, protons, quarks, and so on) and radiation (photons). This underlying symmetry, however, is not observed directly in the material world, as there are no superpartners to the known particles. Yet theoretical models could be constructed in which there was suitable destruction of the symmetry.

What was discovered at the time was that these initial supersymmetric models had certain features about them which made them more respectable when they were married with quantum mechanics—that is, "quantized"—than if they did not possess the symmetry. This process of "quantizing" a theory is essential if it is to be regarded as a good candidate for a theory of the forces of nature. (Quantum features correspond to the wave nature of all matter, and have had overwhelming experimental justification since the 1920s.) As such, the increased respectability of these models caused great interest in the scientific world.

In 1976 two independent groups then constructed a supersymmetric version of Einstein's theory of gravity. This was also found to have a more respectable quantized version, though still suffering from difficulties, at a slightly reduced level, which the theory inherited from the quantized version of plain gravitational theory. Moreover, supergravity could not possibly encompass the other forces of nature (electrodynamics, radioactivity and the nuclear force). It was then realized that an extension of the concept of supersymmetry to so-called "extended supersymmetry" would have still better quantum properties and possibly incorporate the other forces. It was also noticed that there is a largest version of extended supersymmetry and that this might possibly be able to describe the known forces of nature. The respectability or otherwise of the quantized version of the theory remains unclear.

In order to construct and analyse the theory of extended supergravity, both in its non-quantum and quantum form,

it seems necessary to express all activity as occurring in an extended space-time. This extension is obtained in two different ways. One is to extend the four dimensions of space-time by adding further spatial dimensions. Einstein's great discovery that the force of gravity is equivalent to the curvature of our four space-time dimensions can be used to enable the other forces to be regarded as the curvature in these extra dimensions (an idea put forward by Kaluza and Klein in the 1920s). In this way, maximally extended supergravity can be described in the simplest way in 11 dimensions. The Kaluza-Klein approach requires the discovery of a mechanism which renders the extra dimensions negligible in extent, so that excitations associated with them could only be observed at far higher energies than presently available.

A further, and just as important, extension of the dimensions of space-time can be achieved by including what are called Grassmann variables, whose measurement depends on the order of their being measured. The so-called manifold of space-time variables is thereby extended to a supermanifold. Bryce DeWitt, one of the founders of the subject of quantum gravity (the attempt to quantize gravity) has written a book which will give a firm mathematical foundation to the use of supermanifolds to construct extended supergravity and any other supersymmetric theories. Indeed, the supersymmetric extension of other theoretical models of reality—say, of point particles or of extended objects like strings—requires the powerful theory of supermanifolds in order to analyse their properties. This book does precisely that. It describes how the mathematical technology of manifolds can be extended to supermanifolds in a useful way from both the differential geometric and group theoretic viewpoints, as well as giving interesting applications in a final chapter.

As the first book to appear on supermanifolds at this deep level, it will be essential for anyone wishing to understand the mathematics of supersymmetry and supergravity. A promised second volume will extend the ideas to more recent mathematical and physical developments.

John Taylor

John Taylor is professor of mathematics at King's College, London.

Size limits

Cantorian Set Theory and the Limitation of Size
by Michael Hallett
Clarendon Press: Oxford University Press, £25.00
ISBN 0 19 833179 6

The history of the foundations of mathematics around 1900 has become quite a fashionable topic, at various levels of exegesis: the work of Georg Cantor, Gottlob Frege, Giuseppe Peano, Bertrand Russell, David Hilbert and others has been described in detailed historical studies, extensive philosophical discourses, popularizing introductions to mathematics, and even in textbook presentations. Hallett's book belongs to both of the first two categories of study, but in a way that is rather difficult to specify.

The first part of the book deals with Cantor, the principal founder of set theory. Starting out in the early 1870s from certain problems in mathematical analysis, Cantor came to see a general role for set theory, not only for the technical purposes which furnished his original motivations but also for more basic parts of mathematics, even the foundations of arithmetic itself (both finite and his newly developed infinite). Indeed, by the end of the nineteenth century he was arguing for his set theory as a foundation for all mathematics.

As history, the author's treatment of this story is rather odd. On the one hand, for much of the time he is really concerned with the historical Cantor, he even uses some of Cantor's manuscripts. He gives a detailed account of Cantor's theory in its various later stages: finitism and the infinite, the transfinite cardinals and ordinals, the various operations performable upon them, their relations to sets, their status as sets, the character of sets

themselves, and so on. But on the other hand, he uses no other manuscript sources: in particular, he relies only on the few published passages of Cantor's massive correspondence with the Swede Mittag-Leffler, in which many of the points raised in this part are discussed. In addition, he enters straight into Cantor's thought without any of the historical preludes which graced J. W. Dauben's 1979 book *Georg Cantor*, and almost entirely ignores the details of the initial work in mathematical analysis.

Hallett's motivation in to study Cantor arises from the fact that, having found towards the end of the century that his set theory admitted paradoxes, Cantor vaguely outlined a method of avoiding them now known as "limitation of size". In this view the source of difficulty is claimed to be the acceptance as legitimate of sets that in some sense are actually "too large". The second part of the book continues the story of this approach to set theory, concentrating on the contributions made between 1900 and 1930 made by Ernst Zermelo, Abraham Fraenkel and John von Neumann. However, although the manuscripts of Zermelo are used with profit, those of the other two play no role. By the 1920s, especially because of Zermelo, axiomatization was the dominant methodology in the foundations of set theory. (In contrast to Cantor's avoidance of axioms), and limitation of size its most prominent guiding principle.

The author's general conclusion is that this principle is not so reliable or powerful as a guide to axiomatization as is normally assumed, although it does provide a persuasive interpretation of several of the axioms. Thus, the axiom systems operative today lack a unifying base to the language of set theory itself, to some extent they have to be taken as an extensional list. Though not a novel philosophical standpoint, it is argued here against a detailed historical background, and poses questions for both the history and philosophy of set theory.

As a history of the limitation of size approach, the book contains much

useful information, but the presentation is badly marred by interpolations of later ideas. This is especially true in the first, Cantorian, part, where the tale is interrupted by some extensive accounts of work done by others around 1900, in the 1910s and also very recently. A particular casualty is the Russian-born mathematician D. Mirmanoff, whose contributions of the 1910s are discussed more in the first part of the book than the second, where for historical reasons it properly belongs.

Concerning the philosophy of limitation of size, and the currently unsatisfactory state of axiomatized set theory, some help may be on hand from logic. Frege and especially Russell sought for foundations in logic; in particular, from around 1900 Russell took Cantor's (outline) grounding of mathematics in set theory one step further back by seeking to base the set theory itself in a mathematical logic of propositions and predicates. This became clear that three bodies of knowledge—mathematics, logic and set theory—had to be put in some relation to each other. Russell himself considered limitation of size theories (as is explained in this book)—indeed, he introduced this name for the standpoint—but he later rejected them (as is not brought out here) and came to espouse his "logistic" thesis, in which mathematics, including set theory, is grounded in mathematical logic, or various reasons; Russell's view cannot be worked out, and the type theory which he proposed to avoid the paradoxes is most unattractive anyway. As the involvement of logic in set theory was now established, and it has continued during this century to a greater extent than it was in the second half of Hallett's book. It may be, however, that in some form it can provide a link, or bond, for axiomatic set theory and so improve on its currently rather eclectic character.

Ivor Gratton-Guinness

Ivor Gratton-Guinness is reader in mathematics at Middlesex Polytechnic.

BOOKS

MATHEMATICS AND PHYSICS

Elusive particles

The Particle Connection:
the discovery of the missing links of
nuclear physics
by Christine Sutton
Hutchinson, £8.95
ISBN 0 09 155890 5

The Ideas of Particle Physics:
an introduction for scientists
by J. E. Dodd
Cambridge University Press,
£22.50 and £8.95
ISBN 0 521 25338 1 and 27322 6

During the past decade, major advances have taken place in our understanding of the fundamental structure of matter. It is now established that the proton and neutron, as well as all other particles undergoing strong nuclear interactions—the hadrons—are composite objects constructed from quarks and antiquarks.

The first indications came from the study of their complicated spectroscopy, but these were soon supplemented in the late 1960s by the study of the hard scattering by nucleons of highly energetic electron and neutrino beams from particle accelerators, which showed that the quarks seemed to be point-like constituents, three orders of magnitude smaller than the size of the proton itself. Three

quarks became known, the up, down and strange quarks, the latter being most massive at about 100 times the mass of the up and down quarks. Experimental work in the 1970s then showed us the existence of much heavier quarks, the charm quark of mass about 1.6 proton masses and the bottom quark of mass about 5 proton masses; today, there are strong indications for a sixth quark, the top quark, with mass about 40 proton masses.

To account for these experimental observations concerning hadrons and their internal quark structure, an elegant and conceptually simple theory of the forces between quarks has emerged, a gauge theory known as quantum chromodynamics, involving a new sort of charge whimsically known as "colour" (analogous in some ways to electric charge). This theory has all the general features required by the data, but also some unusual characteristics, "quark confinement" being the most remarkable. This implies that quarks can exist only within hadrons, and never in the free state. Since the charge values are multiples of one-third of the electron charge, it would be possible to detect and identify free quarks readily. Despite this confinement, physicists have no doubt that quarks are real. High-energy physics today is largely "quark physics". The most striking events seen have simple quantitative interpretations in terms of the interactions of quarks with quarks. Such simple and fruitful mental pictures of these events quickly become accepted as reality by the working physicist, despite his knowing that he cannot hope ever to see an individual quark, as a matter of principle.

At the same time, an electroweak theory has been proposed to unify in a single gauge theory both the electromagnetic and the weak nuclear interactions of hadrons and leptons—responsible, for example, for radioactive decay and involved in the fusion of hydrogen to form helium in the Sun. Although in its simplest form, this

theory—known as the "standard model"—is still in excellent accord with all the data, there are some complications. The symmetry underlying the theory is spontaneously broken—that is, the symmetry is not immediately apparent in the world around us. Besides the photon, whose mass we know to be zero to great accuracy, the four electroweak gauge bosons include the charged W and the neutral Z particles, whose masses are of the order of 100 proton masses. In 1983, these extraordinarily massive gauge bosons were observed in high-energy proton-antiproton collisions created in a collider at the Centre Européen de Recherche Nucléaire (CERN), in Geneva. They were identified and later found to have precisely the properties required by the standard model.

The theoreticians have raced ahead, seeking to extend this unification to include the hadronic interactions, which are governed by quantum chromodynamics. This work has led to the expectation that the proton may be unstable, though with a lifetime now known to be greater than 10 to the power of 32 years. Links have been established between these fundamental interactions and gross properties of the universe determined by its very earliest history. However, the simplest of these "grand unified theories" does not accord with all the quantitative facts, and it may be necessary to explore a number of "next-simplest" theories, to get things more nearly right. Also, some data reported recently from the CERN collider provide hints of other phenomena which may call for a more extended theory. This is a time of great excitement in fundamental physics, of deep insights glimpsed concerning the nature of our universe, and of expectations that more of its long held secrets may soon be known to us.

These two books, both well written, aim to give non-specialist readers some

impression of these enormous changes in our perspective and understanding of our physical universe, as well as some knowledge of the particle accelerators, storage rings and detection devices which have been necessary for these advances. Christine Sutton's book, intended for a wide audience, conveys well the excitement of research. Though not really technical, it is generally precise, especially on the current work. It is still demanding, for it includes an enormous range of concepts, facts and ideas, but it does provide good guidance for readers excited by its story, as to where they may learn more and gain a deeper understanding.

James Dodd's book is directed towards readers with some experience of science outside this field, who will not be afraid of technical talk and who understand the nature of scientific arguments. Despite its appearance, it is not a textbook. No derivations are given, but the statements made are precise and are related to a general theoretical framework in such a way that readers will be able to appreciate the logical connections, even if quite unable to carry out the calculations themselves. Its style is more sedate and scientific, with an emphasis on the framework of concepts and ideas rather than on the high points of the data and their interpretation. It should be interesting and fairly intelligible to determined sixth-form students and

certainly to all science undergraduates, and it provides goals for further reading. Scorpions, however, may find difficulty in accepting much of what is in the book, because it is unfamiliar and not proven there. Such readers must press ahead in order to see the picture as a whole, accepting that the unproven assertions are correct. They can then watch how the author establishes the final picture by piling assertions on assertions. I can assure them that Dodd is mostly correct and that their persistence will be rewarded. A second reading will be more illuminating, since the reader will then know the objectives.

Both books are at their best and most accurate when they are describing current research. Naturally, they both have errors, misconceptions and misleading statements. Several of Dodd's figures are incorrectly identified or misleading; Sutton puts the cart before the horse in a number of places; and both authors have a tendency to rewrite history. However, both books are worthwhile, each in its own way, telling a fascinating story still unfolding.

R. H. Dalitz

R. H. Dalitz is Royal Society research professor of theoretical physics at the University of Oxford.

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R. B. J. T. Allenby

R. B. J. T. Allenby is senior lecturer in pure mathematics at the University of Leeds.

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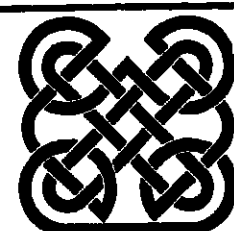
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DRAMA

We are looking for someone academically well qualified to teach Drama but with a wide range of practical experience as possible, at least some of which should be in professional theatre.

RELIGIOUS STUDIES

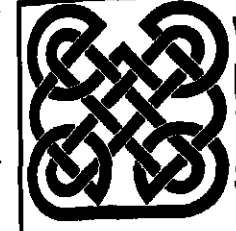
The person appointed will contribute to Religious Studies and Religious Education courses in B.Ed. and B.A. degree programmes as well as at post-graduate level. Applicants must be good Honours graduates with recent and successful experience of Primary School teaching.

SPECIAL NEEDS

Applicants are invited from teachers with graduate or equivalent qualifications; a proven interest in research; and recent secondary school experience. The post will involve work with the P.O.C.E. Slow Learner Centre (Secondary) as well as pre-service and in-service courses of teacher education.

Further details and application forms may be obtained from the Principal, College of Ripon and York St John, Lord Mayor's Walk, York YO3 7BX, to whom completed forms should be returned to arrive not later than Wednesday, 3rd April 1985.

Colleges and Institutes of Higher Education continued



West Glamorgan Institute of Higher Education, Swansea

Faculty of Business Administration
Lecturer II: Nursing Studies

Applicants are invited from professionally qualified candidates to be responsible for the Diploma in Nursing and other ancillary health courses. The successful candidate will be responsible for the theory, practice and the evaluation of Nursing. Applicants should be experienced Nurse-Tutors in possession of a degree and teaching experience would be an advantage.

Salary: Lecturer II £7,548-£12,099

Faculty of Information Studies

Lecturer I: Mathematics

Applicants are invited from well qualified graduates in Mathematics. The successful candidate, who will be based in the School of Quantitative Studies, will be responsible for the teaching of Mathematics across a range of courses including advanced level courses. The possession of a higher degree would be an advantage as well as an interest in research. Previous teaching experience would also be desirable.

Salary: Lecturer I £9,910-£10,812

Application forms and further details can be obtained from the Principal, West Glamorgan Institute of Higher Education, Townhill Road, Swansea SA2 0UT. Please enclose S.A.E. (198549)



NEWMAN and WESTHILL

JOINT HEAD OF MATHEMATICS

(with responsibility for Computing in the B.Ed. degree)

Applications are invited for this important post of leadership in this subject across the two Colleges. Candidates are expected to have a good Honours degree in Mathematics and a higher degree. Preference will be given to candidates who additionally have experience of teaching at primary school level and have an interest in computer education.

The two Colleges are Affiliated Colleges of the University of Birmingham and are working on a joint academic programme.

Further details of the post and mode of application may be obtained from: The Principal, Westhill College, Selly Oak, Birmingham, B29 6LL. Tel. no. 021-472 7245.

Closing date: 12th April 1985.

Provisional date for interviews: In week commencing 20th May, 1985. (198549)

Affiliated Colleges of the University of Birmingham

Faculty of Applied Studies
Department of Business and Management Studies

HEAD OF DEPARTMENT GRADE 6

Applications are invited for the above post. Department of Business and Management Studies is currently part of the Faculty of Applied Studies but it is anticipated that the department will be autonomous by September 1985.

The post involves responsibility to the Director for:

1. The academic and operational leadership of the department and the maintenance and development of the existing programme of Business and Management Courses.
2. The development of research, consultancy and staff development programmes.
3. The development and maintenance of both the internal and external relations of the department.

Candidates should be well qualified and experienced graduates, and have a proven record of development of academic courses. Further information and application forms may be obtained from Mr G.R. Gleave, Clerk to the Governors, Crewe & Alsager College of Higher Education, Crewe & Alsager, Cheshire CW1 1DU.

Closing date for completed applications Friday 12th April 1985. (198549)

Crewe & Alsager College of Higher Education

Education Department
DIRECTOR OF BEDFORD COLLEGE OF HIGHER EDUCATION

Re-advertisement - Previous applicants will be reconsidered. Required from 1st September 1985 or as soon as possible thereafter.

The College has a wide range of full-time and part-time courses at both advanced and non-advanced levels, including CNA and BTEC validated courses, in agriculture and horticulture, building, business studies, catering, education, engineering, health studies, human movement studies, mathematics, computing and secretarial studies.

Applicants should have teaching and administrative experience at a senior level in addition to managerial skills of a high order.

The College is in Group 9 and the salary is currently £26,175. Application forms and further details are obtainable from the Chief Education Officer (reference FEC1), County Hall, Bedford MK42 9AP.

Closing date 29th March 1985. The Council is an Equal Opportunity Employer. (198549)



LECTURER II/SENIOR LECTURER IN ACCOUNTANCY (2 posts)

Salaries: Lecturer II £7,548 to £12,099 + Local Allowance (£258)

Senior Lecturer £11,175 to £14,061 + Local Allowance (£258)

Teaching or cover some of the following subjects: Financial accounting at all levels, auditing, costing, financial management, systems analysis and design applied to accounting and aspects of accounting information technology.

One post will be related to teaching accounting on Business/Techinical Education Council courses. Candidates should have a qualification in accounting and teaching and/or a practical business background. Further details and application form may be obtained by sending a stamped addressed envelope to:

The Vice Principal, Slough College of Higher Education, Wellington Street, Slough, SL1 1YG. Closing Date 14 days

Slough College

West London Institute of Higher Education

Department of Physical Education & Sciences

LECTURER II IN SPORTS PHYSIOLOGY

Applications are invited for the above post commencing 1 September 1985. The person appointed would be expected to make a contribution to a variety of degree courses in the field of exercise physiology, anatomical techniques, human growth and development.

The appointee will also be expected to contribute to practical work in swimming, tennis and outdoor pursuits. A higher degree in a relevant area and experience in teaching at degree level would be an advantage.

Salary scale: Lecturer II £7,548 to £12,099 plus £275 O.L.A.

Closing date (for both posts) 29 March.

For job description and application form please contact: The Vice Principal, West London Institute of Higher Education, 39 York Road, London SE1 7PH. Telephone 01-434 0798/0799/0800. Please quote ref. 13/85. The Civil Service is an equal opportunity employer. (198549)

Applications are invited for the above post commencing 1 September 1985. The person appointed would be expected to make a contribution to a variety of degree courses in the field of exercise physiology, anatomical techniques, human growth and development.

The appointee will also be expected to contribute to practical work in swimming, tennis and outdoor pursuits. A higher degree in a relevant area and experience in teaching at degree level would be an advantage.

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West London Institute of Higher Education
Department of Humanities

LECTURER II IN ENGLISH

Applications are invited for the above post commencing 1 September 1985. The person appointed will contribute to the teaching of English at honours degree level. Candidates should have experience in the fields of twentieth century and Renaissance literature, particularly poetry. A higher degree in a relevant area is expected as well as current research activity. Experience of teaching at degree level would be an advantage.

LECTURER II IN HISTORY

Applications are invited for the above post commencing 1 September 1985. The person appointed will contribute to the teaching of History at honours degree level. Candidates should have appropriate experience in the field of modern British history, with particular interest in the period from late seventeenth century to the mid-nineteenth century. A higher degree in a relevant area is expected as well as current research activity. Experience of teaching at degree level would be an advantage.

Salary scale (for both posts) £7,548 to £12,099 plus £275 O.L.A.

Closing date (for both posts) 29 March.

For job description and application form please contact: The Vice Principal, West London Institute of Higher Education, 39 York Road, London SE1 7PH. Telephone 01-434 0798/0799/0800. Please quote ref. 13/85. The Civil Service is an equal opportunity employer. (198549)

Further particulars from: The Principal, King Alfred's College, Winchester SO24 0NR. To whom applications should be sent by 10th April 1985. (198549) H11

Please mention THE T.H.E.S. WHEN REPLYING TO ADVERTISEMENTS

For job description and application form please contact: The Vice Principal, West London Institute of Higher Education, 39 York Road, London SE1 7PH. Telephone 01-434 0798/0799/0800. Please quote ref. 13/85. The Civil Service is an equal opportunity employer. (198549)

Scholarships

Sports Science Scholarships

Applications are invited for two research studentships in the field of sports science. Relevant subject areas include medicine, physiology, biomechanics, biochemistry/nutrition, motor learning and social psychology. The studentships attract standard research council rates and are tenable from October 1985 for a period of two years, renewable for a third. Successful applicants are expected to register for a PhD.

Applications should be submitted by 31 May 1985. For further particulars please contact the Research Unit, Sports Council, 16 Upper Woburn Place, London WC1H 0QP.

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Colleges and Institutes of Technology

BARKING COLLEGE OF TECHNOLOGY Group 6

Principal

Salary: £21,822-£22,869 plus London Weighting of £1,038

Applications are invited for the above post which becomes vacant on the 1st September 1985 following the retirement of the current Principal. Applicants must be graduates with senior teaching and administrative experience in further/higher education. Experience with Manpower Services Commission Schemes would be an advantage, but personal commitment and an ability to communicate effectively with college staff, employers, the local community and outside agencies will be essential.

Further particulars available from Chief Education Officer (ref. FE/BCT), London Borough of Barking and Dagenham, The Town Hall, Barking, Essex, IG11 7LU. Telephone enquiries to 01 594 3880 Ext. 130. Closing date: 4th April 1985. (020292)

Lothian Regional Council NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY LECTURER IN ECONOMICS

Salary on Scale: £8,688-£12,777 - (net) - £13,716. Required to teach in the Department of Industrial and Social Studies to teach in a range of Degree and Diploma courses. Familiarity with economics and with the use of computer software in teaching economics would be an advantage for this post. Candidates should indicate their major area of interest in Economics. Candidates for this post must have a good honours degree and research and/or industrial experience. A higher degree in Economics is desirable. Application forms and further particulars from: Administrative Officer (Personnel), Napier College of Commerce and Technology, Colinton Road, Edinburgh EH10 5DT. Tel: 031 447 7070. (020109)

Secondary Education

WESTMINSTER SCHOOL HEAD

Applications are invited for the post of Head which will become vacant from the 1st May 1986 following the retirement of Dr John Rae.

Further particulars and an Application Form are available from the Secretary to the Governing Body, Westminster School, c/o Messrs Lee Bolton and Lee, 1 The Sanctuary, Westminster, London SW1P 3JT.

Closing date for return of Application Forms: 30th March 1985. (020039)

PLEASE NOTE

CLASSIFIED COPY DEADLINES FOR THE FOLLOWING ISSUES OF THE T.H.E.S. ARE:

5th APRIL 1985
IS NOON WEDNESDAY
MARCH 27th

12th APRIL 1985
IS NOON TUESDAY
APRIL 2nd

Administration

INTERNATIONAL ASSOCIATION OF UNIVERSITIES Secretary-General

The Administrative Board of the International Association of Universities seeks candidates for the post of Secretary-General. The Association is the leading organization of the Universities of the world with over 800 institutions from all continents. The Association (IAU) has its headquarters in Paris. The Secretary-General is the chief executive of IAU, responsible for its quinquennial general conference, its other conferences, seminars and programme activities. He or she is editor of the Association's reference works, quarterly journal, and other publications. A staff of about 12 report to the Secretary-General. Subject to the authority and the policies of the President and the Administrative Board, he or she represents IAU with its member institutions and with national and international bodies concerned with higher education and research.

Candidates should have significant university experience and demonstrated executive talents. An excellent command of both English and French is required. Our staff knows of this vacancy and the heads of all our member institutions and our associate member organizations have been asked to recommend candidates. The present incumbent will retire in 1988 and the position should be filled before that time. The salary will be commensurate with experience.

Please send curriculum vitae and the names of referees to: Sir John Habakkuk, Chairman, Search Committee, International Association of Universities, 1 rue Molière, 75732 Paris Cedex 16, France.

Applications should arrive by the end of May 1985 and the envelopes should be marked "Confidential".

Martin Meyerson, Acting President IAU, President Amritsar, University of Pennsylvania, PHILADELPHIA, (0202021)

University of Cambridge, Department of Education. Applications are invited from University graduates for the office of ASSISTANT SECRETARY.

of the Department of Education for appointment from May 1985, or as soon as possible thereafter. Preference will be given to applicants under 35 years of age who have had experience in University or other educational administration.

The duties are varied and include the particular responsibility for the organization of the Postgraduate Courses, including admission of students and arrangements for teaching practice, servicing certain Departmental and Faculty committees and liaising with a wide range of individuals and institutions inside and outside the University.

The minimum salary of £27,550 to £12,150 a year.

The appointment will be for three years, with the possibility of reappointment.

Further information from the Secretary of the Appointments Committee for Departmental Secretaries, General Board Office, The Old School, Cambridge CB2 1TA to whom applications (ten copies) including a curriculum vitae and the names of not more than three referees should be sent by 5 p.m. 1985. (025118)

Further information from the Secretary of the Appointments Committee for Departmental Secretaries, General Board Office, The Old School, Cambridge CB2 1TA to whom applications (ten copies) including a curriculum vitae and the names of not more than three referees should be sent by 5 p.m. 1985. (025118)

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THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY SYDNEY, AUSTRALIA Equal Employment Opportunity is Institute Policy FACULTY OF BUSINESS

LECTURER OR VISITING LECTURER IN FINANCE

Salary \$A24,840 — \$A32,634 p.a.

The Faculty of Business offers courses at both undergraduate and graduate levels. The Department of Finance within the School of Finance and Economics offers courses in the areas of Corporate Finance, Investment Management, Capital Markets, Financial Statement Analysis and Financial Modelling.

The Lecturer in Finance would be expected to teach and co-ordinate two subjects in the undergraduate/post graduate program and to assume some administrative responsibilities. In addition, the appointee will be encouraged to undertake some academic or applied research. Visiting Lecturers would be expected to assume teaching responsibilities only. Limited consulting work may be permitted with the concurrence of the Institute's Council.

Fares and a contribution toward removal expenses are provided for overseas appointees. A Housing Loan Scheme is also available. With consent of Council, academic staff are permitted to undertake limited consulting work.

Overseas appointees will be expected to enter into a service agreement to remain with the Institute for a minimum of three (3) years.

Further information is available from Dr. Z. P. Matolcsy, Head of the Department of Finance on (02) 218 9533.

Applications close on 12th April, 1985.

An information sheet for applicants is available from the address below.

Applications should include full details of academic and professional background. The names and addresses of three referees from whom confidential reports may be obtained, should be included. In reply please quote reference No. 85/037, and forward to:

The Director
New South Wales Government Office,
68 Strand,
Sydney, NSW 2000

Closing date: 27th March 1985.

The Polytechnic is an Equal Opportunity Employer. (025299)

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Overseas continued

KING SAUD UNIVERSITY QASSEEM, SAUDI ARABIA COLLEGE OF AGRICULTURE AND VETERINARY MEDICINE

Academic appointments

Professors, Associate Professors, Assistant Professors

are available in the College of Agriculture & Veterinary Medicine (Qasseem Branch) on one year renewable contracts, tenable from 27 July 1985.

Applicants should be Ph.D. holders and/or holders of academic titles from accredited universities.

The College of Agriculture (where the language of instruction is ARABIC) has the following departments:

Animal Production and Breeding, Crops and Range Management, Veterinary Medicine, Horticulture and Forestry, Water and Soil, Agricultural Engineering, Agricultural Extension and Economics and Plant Protection.

Benefits include:

- * Tax free salaries (based on qualifications and experience).
- * Monthly transport allowance.
- * Relocation allowance.
- * Free furnished accommodation or housing and furniture allowance.
- * Free yearly return air tickets for incumbent and family.
- * Children's educational allowance (non Arabic speakers only).
- * Free medical/dental care covering family.
- * 60 days annual pre-paid leave.
- * End of service gratuity.

Application forms are available by writing to the following address, stating clearly the College to which you wish to apply, and where you saw the advert.

Ms Carmel Donnanahie
King Saud University Office
29 Belgrave Square
London SW1X 8QB

ONLY SUCCESSFUL APPLICANTS WILL BE NOTIFIED

UNIVERSITY OF BOTSWANA

Invites applications for full time Librarian positions (Assistant Librarian equivalent) in the University Library. Qualifications: a subject Bachelors degree and professional qualification in Librarianship. Relevant experience will be an advantage. Successful applicant will join a department of seven subject Librarians whose duties include collection development, reference service, and processing all materials in an assigned subject field.

2. INSTITUTE OF ADULT EDUCATION wishes to appoint a lecturer in Adult Education or organise University extension programmes from its Northern Office in Francistown. The post involves coordinating University extension activities in northern Botswana and developing new programmes through liaison between University departments and government and non-government organisations. The work will also include relevant teaching and research activities. Applicants should have M.A. or Ph.D. in adult education or related subject and experience in University extension work, preferably in developing countries.

SALARY: P8568-P16368

Fringe benefits for expatriates: 25% gratuity; 30% contract addition and education allowance for children.

Applications should be addressed to The Assistant Registrar (Staffing), University of Botswana, Private Bag 0022, Gaborone, Botswana not later than April 30, 1985. (020089)

UNIVERSITY OF BOTSWANA RESEARCH FELLOW/ SENIOR RESEARCH FELLOW

Applicants are invited from suitably qualified persons for a position of Research Fellow tenable at N.T.R. for a period of twelve months. The research project will be concerned with the nature and extent of teenage pregnancies in Botswana. Candidates should be in possession of a Masters degree in Sociology, Anthropology or any of the other social sciences and should be conversant with research methodology using survey techniques. Candidates with other comparable qualifications will also be considered.

Preference will be given to nationals of Botswana, but other suitably qualified persons will also be considered.

Salary: P8568-P16368

Fringe benefits for expatriates: 25% gratuity; 30% contract addition and education allowance for children.

Applications should be addressed to The Assistant Registrar (Staffing), University of Botswana, Private Bag 0022, Gaborone, Botswana not later than March 29 1985. (020089)

South Australian College of Advanced Education

The Council of the South Australian College invites applications for the position of

PRINCIPAL

The College was established by Act of Parliament in 1982 by incorporating the former Adelaide College of the Arts and Education and Hartley, Salisbury and Sturt Colleges of Advanced Education. The College operates a six Faculty structure on five sites in metropolitan Adelaide. The Office of the Principal, the Directorates and the Administrative Secretariats are located on the City Site.

The College offers degrees in Art, Design, Business, Aboriginal Studies, Education, Communication, Journalism, Health Sciences, Home Economics, Recreation, Interpreting and Translating, Music and Dance and Early Childhood as well as a number of undergraduate and postgraduate diplomas. In 1985 over 10,000 people are enrolled as full-time, part-time or external students.

The Principal is responsible to the Council for the development and operation of the College and for establishing and maintaining effective links with Federal and State authorities, with other institutions and with the professions for which students are being prepared.

The position will be offered initially as a limited term contract for seven years at Director level 7 of the Academic Salaries Tribunal scales, currently \$61,000. It is expected that this salary will increase by approximately 3% in April 1988.

The South Australian College of Advanced Education is an equal opportunity employer.

Documents containing further information about the College may be requested from the Secretary: Staffing (08) 228 1638. Applications, including the names and addresses of three persons from whom confidential references may be sought, should be marked CONFIDENTIAL and addressed to:

The President of Council
The South Australian College of Advanced Education
48 Kintore Avenue, Adelaide, South Australia 5000
Closing Date: 6 May 1985.

THE FLINDERS UNIVERSITY OF SOUTH AUSTRALIA School of Medicine

The School of Medicine forms an integral part of the Flinders Medical Centre, a 500 bed teaching and community hospital located adjacent to the University campus at Bedford Park, Adelaide, South Australia. The Unit of Surgery has staff representing all surgical disciplines except cardiac surgery.

LECTURUR IN SURGERY (Limited Term)

It is expected that applicants will have finished formal clinical training in general surgery or one of the surgical specialties, although this is not essential. In addition to clinical duties, the appointee should be prepared to spend at least half the time on research in one of the established projects within the Unit. The appointee will also be expected to teach undergraduate medical students and take part in the organisation of clinical teaching and examinations. The position will be available from 1 May 1985 and will be made for a period of up to three years. Interested persons and intending applicants should write to the Head of Surgery, Professor V.R. Marshall, for further details of the nature of the position, the Unit of Surgery and the Flinders Medical Centre.

Salary Scale: \$24,363-\$31,994.

The appointment will not be made above the sixth level of the salary scale, viz. \$30,408. Subject to registration as a specialist by the Medical Board of South Australia, the appointee will be eligible for a clinical loading of \$86,302 a year.

Applications, including a curriculum vitae with full details of qualifications and experience and the names and addresses of at least three referees of whom confidential enquiries may be made, should be lodged, in duplicate, with the Registrar, The Flinders University of South Australia, Bedford Park, South Australia, 5042, by 7 April 1985, quoting reference number L57.

(020112)

ZAMBIA INSURANCE BUSINESS COLLEGE TRAINING MANAGERS

The College is based in Lusaka and Ndola, Zambia. Courses offered include Chartered Insurance Institute subjects, technical Insurance Modules and Selling Skills Courses for both General Branch and Life Salesmen and Brokers. The majority of students attend the College on a day release basis from the Zambia State Insurance Corporation (one of the largest insurers in the Southern Hemisphere), Zambia National Insurance Brokers and a number of other companies. Foreign students are accepted on a full time basis and the College is establishing an international reputation.

Candidates are invited to apply for two positions:

Head of Business Studies, Lusaka Head of Copperbelt Unit, Ndola

The successful candidates will be offered three year renewable contracts and an excellent remuneration package including free housing, car, petrol, local school fees and paid home leave for self and family.

This is an ideal opportunity to gain broad based management experience in an overseas setting which can only further your career on eventual return to the UK.

To apply please send a full CV to The Director, Zambia Insurance Business College, c/o Sarah Betts at:

BDC (International) Ltd
63 Mansell Street London E1 6AN 01-488 0185

BDC

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when replying
to advertisements

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SHOULD ARRIVE
NOT
LATER THAN
10.00 A.M.
MONDAY
PRECEDING THE
PUBLICATION

UNIVERSITY OF CAPE TOWN

LECTURER IN ENGLISH

Applications are invited for the above post, vacant from January 1st 1986. There are opportunities in the Department to teach the usual topics in English Language and Literature. Applicants should state their areas of especial interest, but should be prepared to teach in reasonably wide field. A special interest in Modern English Language may be a recommendation.

Salary range: R17,267-R28,889 per annum, with an annual bonus of nearly one month's salary and attractive staff benefits.

Applicants should submit a full curriculum vitae, including publications, and the names and addresses of three referees not later than 30th April 1985 to the Registrar (Attention: Appointments Office) E/5327, University of Cape Town, Private Bag, Rondebosch, 7700, South Africa.

Further information may be obtained from the Registrar or The Secretary, SA Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE.

The University's policy is not to discriminate on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable on request. (020096)

UNIVERSITY OF BOTSWANA

Invites applications for the post of

Lecturer in Commerce

from suitably qualified candidates with Masters Degree in Commerce/Accounting or a professional qualification in Accountancy/Management and three to five years experience in teaching at University level. Practical experience of two/three years in accounting and allied field in a developing country and good research background and recent publications are desirable. The incumbent's main responsibility will be coordination and teaching in the evening part-time certificate and Diploma in Accounting and Business Studies.

Salary P8568 - P16368 per annum.

Fringe benefits for expatriates: 25% gratuity; 30% contract addition and education allowance for children.

Applications should be addressed to:
The Assistant Registrar (Staffing),
University of Botswana,
Private Bag 0022,
Gaborone, Botswana
not later than March 31st, 1985. (020100)